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**THE DISCIPLINES OF VOCAL
PEDAGOGY: TOWARDS A HOLISTIC
APPROACH**

**A thesis submitted to Middlesex University in partial
fulfilment of the requirements for the degree of Doctor of
Philosophy**

Karen Elisabeth Sell

**SCHOOL OF ARTS
MIDDLESEX UNIVERSITY**

February 2003

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ABSTRACT

This dissertation comprises an exploration of the thesis that a holistic education entailing multi-disciplinary study is essential if classical singers and vocal pedagogues are to be prepared adequately for performance, for their teaching role, and for cooperation in inter-professional relations. The disciplines pertinent to vocal pedagogy are examined, and their varied contributions are discussed with a view to showing the ways in which they are mutually supportive. The case is argued on the basis of an exhaustive analysis of the relevant literature, and is underpinned by my wide professional experience as a soprano, and as a teacher both in primary, secondary and higher education, and in private practice at home and abroad.

Starting with a survey of views on vocal pedagogy from biblical and classical times to the present day, important diverse roots are exposed, yielding differing and even conflicting tonal ideals which have a bearing on the consideration of different singing styles, and the interpretation of songs and arias. Ethics and psychology are identified as central to the entire pedagogical process, along with the scientific basis of singing, encompassing acoustics, anatomy and physiology, with special reference to the bearing of the latter two upon vocal health and hygiene. A detailed consideration of singing technique is the centrepiece of the dissertation, building on the scientific basis already presented. The several aspects of technique are discussed, and an understanding of the relations between good technique and scientific awareness is shown to be fundamental to good vocal pedagogical practice. In differing ways all of the disciplines thus far discussed - history, the ethics and psychology, science, vocal technique - contribute to performance, which is the next topic dealt with. In addition, since the evaluation of performance is a question of aesthetics, that branch of philosophy is introduced as a further discipline contributing to the education of the fully equipped singer and vocal pedagogue.

While a considerable amount of research has been undertaken by others on the individual disciplines discussed in this dissertation, no study to date has attempted the task of showing the inter-relationships of all of them, and the ways in which together they bear upon classical singing pedagogy. The central theme of the dissertation is that the adoption of a holistic, multidisciplinary approach is of particular benefit to singers and voice teachers, and that such an approach facilitates mutual co-operation between them and other voice professionals.

PREFACE

Since my objectives in this study are stated in the Introduction, it will suffice here to thank those who have assisted me in my researches.

It goes without saying that the attempt to show the multi-disciplinary nature of vocal pedagogy has entailed considerable bibliographical effort. In this connection I should like to thank staff of the following libraries for their assistance: Acadia University, Nova Scotia; The British Library; The Library of Congress; The Hollis Library, The University of Harvard; The Huw Owen Library, The University of Wales, Aberystwyth; The National Library of Wales; The Open University Library and The University of Tulsa Library, Oklahoma.

I have been particularly well served by the library of Middlesex University - not least by its strong run of journals - with its tradition of music pedagogy on the Trent Park campus stretching back more than half a century.

I am grateful for the rigour of the committees through which my proposal has passed under the kindly administrative eye of Doreen Humm; and for the guidance and encouragement of my two supervisors, Professor Michael Bridger and Professor Leon Rubin.

Karen Sell

February 2003

INTRODUCTION

In this study I propose to engage in scholarly research in the light of, and with a view to fostering, reflective practice in the field of classical vocal pedagogy. As the title, *The Disciplines of Classical Singing Pedagogy: Towards a Holistic Approach*, implies there is more to educating the singer than training the voice. The particular thesis to be demonstrated here is that a holistic education entailing multi-disciplinary study is essential if classical singers and vocal teachers are to be prepared adequately for singing and for their teaching role, and equipped to cooperate effectively in inter-professional relations. Singing pedagogy is a field to which a number of mutually supportive disciplines contribute and singers should be well versed in these.

Throughout the study the term 'singer' is used to include both performer and teacher. This usage recognizes the fact that many singing teachers are also, or have been, performers; and that, owing to such factors as paucity of work, family commitments, and shortness of performing career, many performers also teach. It is therefore all to the good if all master the disciplines contributing to vocal pedagogy. The adjective 'classical' in the title indicates the style and repertoire which are predominantly in mind throughout this work, namely, those of Western classical music. This restriction of interest implies no elitism, but recognizes the fact that while there are, for example, physiological and anatomical factors common to all styles of singing, technique and interpretation in non-Western singing, musical theatre, popular music and jazz are studies in their own right.

By way of anchoring our study in reality, let us consider events that actually occur in a voice studio, and offer some preliminary suggestions of the sources from which guidance may be sought.

1. A potential student arrives for a preliminary discussion and possible audition. The first set of considerations is not strictly musical, but concerns the

establishment of good personal relations and ethics. The most pressing question under the latter heading is, *Ought* I to enrol this student? Here the teacher's integrity is very much at stake. Suppose that the first few bars of warming up suggest that the person may have nodules, or appears to have a significant respiratory problem. Ought I to recommend a medical check-up prior to enrolment? But suppose professional performance is imminent? Here the teacher faces a clash of *prima facie* obligations: the obligation to assist those who have singing career commitments on the one hand, the obligation not to do harm on the other. These are significant ethical questions, especially in the context of financial incentive, particularly where the private teacher is concerned (Shall I take the money and run?). Voice teachers need skill in making such judgments - and all of this in addition to integrity in general business ethics, which covers a wide territory from giving good service to not poaching the students of others, (Sell, 1996-7, 24-25, 2001, 8-10, 2002, 8-10).

2. In making the assessment of the voice on which the ethical judgment is based the teacher will have watched closely and listened intently. Here the disciplines of anatomy, physiology and acoustics come into play. Standard works in this connection are: Warwick *et al* (1980), Perkins *et al* (1986), Sataloff *et al* (1997), for anatomy and physiology; Sundberg (1987), Titze (1994) and Howard *et al* (1996) for acoustics.

3. Supposing that it is appropriate to enrol a student, which curriculum will best meet the student's needs? If a beginner, is the student aged eight or eighty? Here we call upon developmental psychology, which at its most basic may suggest that there is something grotesque about a child mouthing the songs of unrequited love, or a senior citizen singing about pixie dells. For developmental psychology reference will be made to Valentine (1957), Chosky *et al* (1986), Hargreaves (1986), Swanwick (1988), Wood (1998), Hayes (2000), and various articles listed in the bibliography.

4. On the assumption that we may proceed as far as a piece of music, what do we find?

(a) A title, which may give a preliminary clue to interpretation. Hoole suggests that interpretation as a subject cannot be taught,

but it can be cultivated in all but a small minority. Anyone whose personal desire is to learn a musical instrument must, by the fact that they are interested, suggest at least some basic interpretational senses on which to build (1995, 12).

Easthope Martin's 'Come to the fair' suggests a mood significantly different from Handel's 'He was despised' (*Messiah*). Again, we may see that the song is an operatic aria, in which case, we need to know the context in which it appears, and the dramatic purpose it fulfils - matters discussed by Caldwell (1991/92) and Kivy (1994, 1995, 1999).

(b) We see the names of a composer and a poet. Enter history and literature, with their attendant questions of period, style, ornamentation and interpretation. Battisti states,

Composers, more than anyone else, understand the limits of musical notation. While many work hard to provide as much guidance and information as possible in a score, they expect the conductor to read between the lines of the music (1996, 14).

We can substitute 'singer' for conductor here, and with the general point Greene (1914), Lehmann (1945), Bernac (1976), Banfield (1985), Thom (1990), Pickett (1996), and Hemsley (1998) are in agreement.

(c) We see time and key signatures, and expression marks which open up the areas of theory and notation. In addition to the printed instructions, there are subtleties of phrase shape, phrase direction, and awareness of harmonic movement. In this connection sources include Brown (1972), Strouse (1991), Taylor (1999), Juslin *et al* (1999), the last of whom explore the possibility that listeners may have emotional feelings transmitted to them by the timing patterns in musical performance.

(d) The song is written in a language - and a competent singing teacher will be something of a linguist, aided where necessary by the International Phonetic Alphabet, a good ear and dictionaries. Wall *et al* (1989), Catford (1990), Wells *et al* (1992), Miller (1996) are among the reliable writers in this field.

(e) Finally, of course, there are the musical pitches. What is their range and *tessitura*? Can this young man with a changing voice manage this piece? Is this soprano technically secure enough to attempt this aria? Such questions are discussed by Miller (1996) and Sell (1995-6).

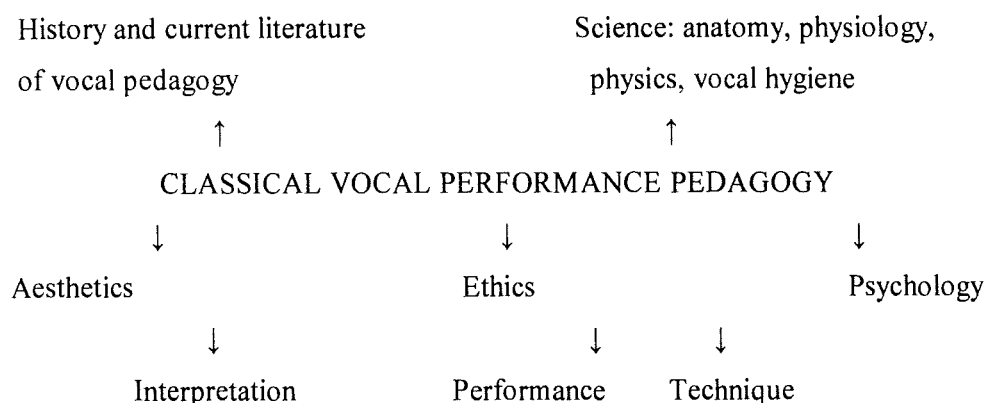
Having absorbed the clues distributed on the page and gleaned from intelligent research, we can proceed to performance. This involves the following topics:

1. The psychology of performance, together with communication and artistry (Miller, 1996), (Maurice, 1997). Among other things this includes the matching of the sound with the literary content, the tone with the word, and the voice with the drama. The issue of performance anxiety also arises. Stubly (1993, 94) presents a philosophical analysis of a 'particular relationship between musical performance, knowledge, self and culture'. Vernon Howard, (1997) pursues virtuosity; Sandra A. Harris (1998) states that while the debilitating effect of performance anxiety in athletes has been recognized by mental health practitioners for many years, it is not until the last fifteen years that their findings have been applied to musical performers. Steptoe (1989) relates performance anxiety to the stresses of musicians' careers and begins to outline some coping strategies, and further relevant contributions have been made by Hartford (1995), Miller (1996), Sloboda *et al* (1996), LeBlanc *et al* (1997), Sataloff *et al* (1991, 1997, 2000), Emmons *et al* (1998), Senyshyn (1999), Haid (1999), Picard (1999). Lavender (1994) humorously warns us of the dangers of being booked to sing with a choral society, and Niven Miller (1998) searches for the 'tingle' factor. Dealing with an opera house with appalling acoustics raises the much-argued problem of the amplification of singers' voices, a topic discussed by Jeal (2000).

2. Passing judgment on the prospective student's voice. What disciplines enter into adjudication? First there are questions of technique involving *inter alia* physiology, anatomy and acoustics. Then there are questions of interpretation and judgement which fall within the field of aesthetics. This broad term covers criticism and philosophical aesthetics. The question of the relation of these will be discovered with reference to Osborne (1979), Plummeridge (1999), Kimmel (1992), Sim (1992), Hanfling (1995), Senyshyn (1996) and Rowe (2000). The former concerns an individual's response to a performance; the latter is a second order discipline which analyses the language of criticism. Thus, for example, - when I say, 'That was a beautiful performance!' do I have in mind a Platonic idea of beauty? Am I really making the subjective judgement, 'That sounded really beautiful to me', or the emotive exclamation, 'I liked that!' And is it possible to adduce grounds for any of these judgements? Predelli (1995) opposes musical Platonism, cf. Yuktanandana, (1995). In one of its senses, therefore, aesthetics, like ethics, is a branch of philosophy with which, like ethics, the voice teacher should be conversant (Edidin, 2000). Wapnick *et al* (1997) make a case for physical attractiveness in singers affecting adjudicators' assessment of their performance. Other arguments in the general field of the aesthetics of music and aesthetic education to be considered include those of Weatherston (1996) and Scruton (1999).

In the light of the welter of considerations thrown up in the context of a voice studio, and on the basis of a number of years experience as a singer, voice teacher and lecturer, I wish to show that adequate vocal pedagogy presupposes knowledge of a constellation of complementary disciplines. While, for the sake of clarity of discussion I shall, in the chapter headings which follow, preserve disciplinary distinctions, it must be understood that a measure of overlap is not only unavoidable, but will assist my case regarding the inter-disciplinary nature of vocal pedagogy. For example, psychological considerations pertain to both pedagogy and performance; questions of technique, themselves turning upon anatomy and physiology, arise in connection with both the interpretation of a song and the evaluation of a performance.

The several disciplines will be considered to the extent that they focus upon the voice, and apply to the vocal teaching and performance of all age groups, thus:



I feel that there is a great need for this study. There is at present no single work which shows the mutual relations specified in the preceding flow chart, and applies them comprehensively to vocal pedagogy for all age groups. Whereas a number of older and contemporary works cover some of the above topics in a general way, research in every field moves on. As might be expected, researchers and writers tend to concentrate on their own specialisms, or sometimes combine two or three disciplines only, for example: Sundberg (1987), Titze (1994), Howard (1996) in physics, and Sataloff (1997), Morrison (1994) and Davies and Jahn (1998) in medicine. Thus, for example, Sundberg discusses the anatomy and physiology of the voice. He uses spectrographs to consider such things as formant frequencies, he describes how the emotional state reflects vocal sound, deals with the differences in perception of sound to the singer and the listener and concludes with a chapter on voice disorders. Titze concentrates on physics and its bearing on voice production and Howard covers acoustics and psychoacoustics from a musical and scientific perspective. As we turn to the medical researchers we find Morrison, himself an otolaryngologist, focussing on voice disorders, but including chapters by colleagues; for example, a speech language therapist, a psychiatrist, a singing teacher, and a paediatric otolaryngologist, all working with him in the Voice Clinic Team in Vancouver, Canada. Sataloff, otolaryngologist and professional singer, who has played a leading role in interdisciplinary work, edits

an expanded edition of a previous volume, in which, although mainly addressing physicians, he includes chapters on many other disciplines. Davies and Jahn contribute to a medical reference book for professional voice users.

There is often an unfortunate time lag between the completion of the research and its publication and, understandably enough, the research is seldom applied to vocal pedagogy in private studios and conservatories. There is thus a case for a work which reviews and critiques recent contributions in all relevant fields, with a view to showing that competent vocal pedagogy presupposes knowledge of these several territories. There is a wealth of material on all the relevant disciplines which, as stated above, does not always follow through to vocal pedagogy. This is not necessarily a criticism of the specialist authors, but their findings need to be assessed and harvested for teaching. Authors of works on vocal physiology and aesthetics, for example, are not blameworthy if they do not venture into pedagogy; but the gap between theory and pedagogical practice needs to be bridged.

The originality of this work lies in bringing all the disciplines together and relating them to vocal pedagogy, with a view to seeing how, and to what extent, they can be drawn upon in the pedagogical situation with students of varying ages and levels of attainment from beginners to professionals.

It is not suggested that vocal pedagogy alone draws on a variety of disciplines. The training of pianists necessitates an understanding of physiology and anatomy as they apply, for example, to posture, breathing, hand positions and movements (Winspur, 1998). There is, nevertheless, an obvious distinction between vocal pedagogy and the teaching of other instruments in that the voice is integral to the performer in a way that no other instrument is. From the point of view of physiology this means that whereas if a violinist sits on his instrument and breaks it, it can be replaced, if the voice is seriously damaged there is no replacement. Further, from the psychological point of view, since the voice is expressive of the personality, criticism of the voice can be perceived as criticism of the person. Whereas in reviews of performance the piano is not normally adversely criticized but rather the way in which it is played (though presumably a grossly out of tune piano would call for comment), in the criticism of singing the

distinction between the instrument and the way it is used is frequently not so clearly drawn.

As the following chapters show there is a considerable literature on every aspect and this will be reviewed as appropriate. The underlying question to be addressed to this body of work is: 'how do the findings of the following specialists best contribute to the pedagogical armoury of the classical singing teacher?' So to the plan:

In chapter one and its accompanying appendix I survey, sift and critically analyse the pedagogical scene from classical and biblical times to the present day in the western classical tradition. Important diverse roots are exposed, and yield differing and even conflicting tonal ideals. The historical study provides one element in the consideration of different singing styles, and the interpretation of songs and arias.

The next chapter concerns ethics and psychology. We shall first observe that ethical considerations permeate the entire pedagogical process as such, and that they concern, for example, business practice and, integrity *vis à vis* the student and other members of the teaching profession. The way in which behaviour of integrity makes a beneficial psychological impression will lead us towards further contributions from psychology. Developmental psychology is examined, from pre-birth to old age, taking note of the differences in opinion, for example, between the widely accepted philosophy of Piaget (1969) and the responses of Gardner (1975)¹. Many other aspects of psychology such as cognitive, behavioural and social psychology are drawn upon. The question of professional ethics for the singing teacher, for example, is discussed in this chapter in view of its psychological implications.

Chapter three on the science concerned with the singing voice includes a review of the work of the physician Sataloff (1997), and the physicists Titze (1993) and Howard (1996).² Anatomy, physiology and acoustics are discussed

¹ Piaget, J. and B. Inhelder, *The psychology of the child*, London: Routledge and Keegan Paul, 1969. Gardner, H., 'Development psychology after Piaget: An approach in terms of symbolization', *Human Development*, no. 22, 1979, 73-88.

² Sataloff, Robert T., ed., *Professional Voice: the science and art of clinical care*, (1991), San Diego: Singular, 2nd ed., 1997. Titze, Ingo R., *Principles of Voice Production*, Englewood Cliffs, New Jersey: Prentice Hall, 1993. Howard, David M., and James Angus, *Acoustics and Psychoacoustics*, Oxford: Focal, 1996.

with a view to showing their importance for, for example vocal health and hygiene. A common language is sought to enable coherent communication between colleagues in related disciplines, for example, laryngologists and speech and language therapists. The question how much science the singing teacher needs to know is pondered. Practical applications for teaching are proposed.

Chapter four on singing technique is the centrepiece of this dissertation. The focal point is the teachings of Miller (1986)³ and those indebted to him, including this author. How far do his teachings, if followed, yield the 'ideal' singer? In seeking to answer this question reference is made to the findings of previous sections. The voice from childhood to old age is also considered, plus tonal ideals and voice classification.

In chapter five, on performance, I consider the interpretation of songs in relation to, for example, style, historical context, and dramatic purpose⁴. Performance is discussed in relation *inter alia* to psychology, acoustics and theatrical conventions⁵. On the basis that every judgement passed upon the singing student's performance is an aesthetic one, I examine the nature of such judgements, with reference to such philosophers as Langer (1957), Adorno (1973), Sloboda (1993), and Scruton (1997).⁶ The ways in which the principles and techniques of aesthetics may assist teachers, adjudicators, examiners and others concerned with the assessment of vocal performance are indicated.

Four introductory points remain to be made. First, the purpose of this study is to show which disciplines contribute to vocal pedagogy and provide its theoretical underpinning. The primary emphasis, therefore, is upon what the voice teacher needs to know in order to proceed in a fully competent manner. While lengthy experience as a singer, teacher, lecturer and conductor of workshops and master classes will be drawn upon for illustrative purposes, this is not a manual for voice teachers of the kind which offers lesson plans, practice schedules, repertoire for the several age groups, and analyses of the works proposed. But, of

³ Miller, Richard, *The Structure of Singing*, New York: Schirmer, 1986.

⁴ Bernac, Pierre, *The Interpretation of French Song*, New York: Norton, 1978.

⁵ Emmons, Shirlee and Alma Thomas, *Power Performance for Singers*, New York: Oxford, 1998.

⁶ Langer, Susan, *Philosophy in a New Key*, Cambridge MA: Harvard, 1957. Adorno, Theodor, *Philosophy of Modern Music*, London: Sheed and Ward, 1973. Sloboda, John, *The Musical Mind*, Oxford: Oxford University Press, 1993. Scruton, Roger, *The Aesthetics of Music*, Oxford: Oxford University Press, 1997.

course, as soon as we ask, 'Why does the vocal pedagogue need to be conversant with so many disciplines?' we approach the realm of practical application. If we cannot show any pedagogical benefits accruing from knowledge of the complex of disciplines with which we are concerned, our attempts to interest voice teachers in them will be an uphill task indeed. The upshot is that we may expect a certain oscillation within this study between the analysis of the content of the several relevant disciplines and the justification of their use in the pedagogical context. In this latter connection the writing style may at times verge upon methodological advocacy, but this will be rooted in the theory and justified by reference to it. It will certainly not take the form of those theoretically ungrounded 'tips for teachers' (which range from the preposterous to the positively harmful) with which, as we shall see, too much of the literature of vocal pedagogy is littered.

Secondly, as to evidence that the holistic approach is successful we may expect at the outset that the most that can be claimed is that if pursued effectively desirable results should follow. But the best theory in the world cannot succeed if teachers are incompetent and unable to communicate with students, and if the students themselves are unresponsive.

Thirdly, in view of the multi-disciplinary nature of the work, it has seemed appropriate to discover and review relevant literature chapter by chapter, rather than to preface the whole with a comprehensive literature review, much of which would then have to be repeated *en passant*.

Finally, I shall from time to time use the following vowel symbols drawn from the International Phonetic Alphabet (as reproduced in Miller, 1986, 298):

IPA Symbols	English	German	Italian	French
[i]	keen	Liebe	prima	lis
[ɪ]	thin	ich		
[e]	chaos	Leben	pena	été, crier
[ɛ]	bet	Bett, Gäste	tempo	êtes, père, neige
[ɑ]	father	Stadt	camera	ras, age
[ɔ]	soft, all	Sonne	morto	somme, joli, votre
[o]	note	Sohn	non	beaux, pauvre, gros
[ʊ]	nook	Mutter		
[u]	gnu, fool	Mut	uso	ou
[ə]	(schwa) ahead	getan		demain

1

A HISTORY OF VOCAL PEDAGOGY

In keeping with the overall intention of this study, our purpose in this chapter is not to provide a complete history of singing and song, but to extract from the general history material which will exemplify the historical roots and variety of pedagogical methods. Since these come to the fore from the sixteenth century onwards, this will be our point of departure.¹

The history will reveal how singers and teachers have been challenged to assimilate stylistic and technological developments. In order to understand the various strands of contemporary vocal pedagogy it is necessary to have some knowledge of their roots. In each of the following sections I shall tell the story with special brief reference to the significant differences of approach to such matters as posture, the breathing mechanism, the vibrators, resonators and articulators, and to other inter-disciplinary perspectives. As a result of this enquiry, we shall in subsequent chapters be able to draw upon the pedagogical inheritance when considering the good teaching practice to be aspired to today.

The sixteenth century

In 1562 Maffei (early sixteenth century; fl. 1562-73), a lutenist, singer, philosopher, physiologist, and physician, produced in a letter to his employer probably the first written method of singing, and was the first to use the terms *passaggio/passaggi*. He begins with a description of anatomy and physiology

¹ For the history of singing, before singing pedagogy was first documented in detail in the sixteenth century, see Appendix 1a.

acknowledging Aristotle and Galen. His method consists of ten rules, of which the eighth reads, 'that one propels the breath little by little with the voice; and one takes great care that it does not go out through the nose or the palate...' (cited, Timberlake, 1993, 24).

Zacconi (1555-1627), in his *Prattica di Musica* (1592) emphasizes the importance of physical appearance, 'The singer must be young, refined, well-dressed, not entirely ignorant, not hesitant of speech, nor sharp in speaking; but gentle, courteous, clean...' (cited, Duey 1951, 38). He goes on to say, 'Some when they cannot reach the figures in certain chords stretch their necks and arch their eyebrows, so that it is apparent that they are pulled there by force' (ibid., 39). The use of vibrato, which he calls 'tremoly' is recommended. 'This tremolo', he says 'should be slight and pleasing; for if it is exaggerated and forced, it tires and annoys' (cited, Miller, 1998, 302).

Many sixteenth century singers, including Rossetti, Frosch, Ganassi, Zacconi, Coclicus and, of course, Maffei, most if not all of whom probably taught, placed high importance on breathing and the problems of breathing for singing. But there is no evidence concerning their actual technical instruction. The problems were very similar to those that occur in the studio of the twenty-first century. The importance of having a good listening ear was stressed. Zarlino (1517-90) wrote 'hearing when it has been purified, cannot easily be deceived as to sound' (cited, Duey, 1951, 40). Precise intonation, accurate singing of intervals, correct singing of what was written was required. But, again, there are no manuals to inform how the voice was to be trained in flexibility to cope with widely ranging intervals, ornaments and embellishments. The advice seems to have been that students should find teachers who sing well. Coclicus (1499 or 1500-1562) and Maffei suggest that singers could learn to sing without any help from a teacher but by studying their manuals. Of Zacconi's *Prattica di Musica* Duey writes,

For the most part he offers only generalities and these tell what should be done rather than what was done... [They]...should have a good chest for sufficient breath, vocal agility, a good ear, know when and where to perform the ornaments with good taste (ibid., 42).

As with Maffei *coloratura* is an ideal, and he offers the suggestion that singers should practise their exercises on all vowels in an attempt to secure evenness of tone throughout the vocal range. This may be the precursor of vowel modification. However, Zacconi is saying very little that is different from previous writers.

Vocal registers, as in the medieval period, were recognized. Three were suggested by some: high, middle and low, and two by others.² Much more interest was taken in the falsetto voice - about which there is much misunderstanding throughout the whole of the history of vocal pedagogy, and of which more will be said later. At this period it is understood to be the feminine sound of the male singer, and it is described as emasculated and effeminate, in agreement with Raynard, Abbot of Citeaux.³

Music flourished widely during the Renaissance. Choirs were to be found in the courts of nobles, in monasteries and in churches. Boy sopranos were in short supply and some were even abducted to sing in choirs. It is said that Orlando di Lasso (1532-1594), when a boy soprano, was abducted three times before his parents finally gave their permission for him to go into the service of the Viceroy of Sicily. Male falsettists replaced the boy sopranos who were in turn succeeded by the castrati.⁴ The composer, Lodovico Viadana, (1564-1645) preferred the castrati to the boy soprano because, in his opinion, 'the boys sing mostly sloppily and with little grace' (cited, Günter, 1997, 10). Also, by the time they had learnt technique and repertoire their voices would have changed. The falsettist's voice was unpopular because of its feeble sound.

Very little, so far in the history, has been said about the breathing mechanism. Duey quotes Caccini (1546-1618) as telling us why breath control is so necessary for his 'noble manner' of singing, of which more anon: 'A man must have a command of breath to give the greater spirit to the increasing and diminishing of the voice, to exclamations and other passions as is related' (1951, 74).

This was all empirical teaching; the earlier pedagogues were more concerned with when to breath rather than with the suggestions of Caccini

² Registration terms by now became Italian, for example, *voce naturele* or *voce piena* (natural or full voice) and *voce finte* (false voices or falsetti) (Reid, 2000, 32).

³ See further, Appendix 1a.

concerning the importance of breathing, and for most teachers a light flexible voice that sung softly was the ideal. It is not until well into the seventeenth century that we have more technical detail and instruction. Most singers and teachers seemed to agree that the best way to learn was by imitating a good teacher, but without suggesting what constitutes a good one.

The seventeenth and eighteenth centuries.

Many scholars call this the age of *bel canto*. Whereas many present-day composers, most of whom are not singers, sometimes make extreme demands upon the voice, in the centuries with which we are now concerned many of the singers and teachers were also composers of vocal music and thus tended to compose more sympathetically for the voice.

It was at the end of the sixteenth century that individual soloists emerged as public performers in their own right. Previously they had been mainly attached to courts or religious institutions. Although they were highly skilled, singing was mostly in ensemble form as in the contrapuntal motets of the period. With the 'birth of opera', firstly in Italy and later in France, solo vocal works began to require a more consistent and developed technique. There was a new emphasis upon vocal display, agility, dramatic ability and voice production capable of filling not just smaller chambers but large halls and theatres. These skills were called for in the works of Monteverdi, Purcell, Handel and their contemporaries, for example; and also in works flowing down from Mozart's big showpiece arias, to the works of Rossini and Bellini. Thus arose the need to discover and circulate technical principles, and to promote the discipline of vocal pedagogy. Since the castrati predominated among the teachers of the time, all voices, male and female alike, were taught to model their singing imitatively upon their practice. Four vocal qualities were demanded by the Baroque composers: perfect intonation, good breathing technique, clear diction and meaningful expression of the text: exactly what one expects from singers today.

⁴ See further, Celletti, Rudolfo, *A History of Bel Canto*, trans. Frederick Fuller, Oxford: Clarendon, 1991; Heriot, Angus, *The Castrati in Opera*, London: Secker and Warburg, 1956.

There was considerable medical research into the singing voice during this period. Many earlier teachers looked back to Galen's theory of voice production, which describes the position of the vocal folds as elliptical, closing together as the pitch rises. The German theorist Michael Praetorius (c.1570-1621) comments positively on vibrato: 'a singer must have a pleasantly vibrating voice'; breathing: 'some singers take too many breaths'; and, unusually at this time, on resonance: 'some sing through the nose and hold the voice in the throat; others sing with the teeth closed' (cited, MacClintock, 1979, 164). In his *Syntagma musicum* (1619) he notes that daily vocal practice is an aid to the general health of the singer, for it warms up the muscles and cultivates a feeling of well-being. His advice on vocal hygiene is rooted in antiquity. We have to go the eighteenth century before we find more information about vocal hygiene.

Giulio Caccini (c.1545-1618) composer/singer/teacher was probably the earliest Baroque writer on singing. He states: 'Therefore, to proceed in order, thus will I say that the chiefest foundations and most important grounds of this art are the tuning of the voice in all the notes' (1601/2 382). He goes on to write, 'a man must have a command of breath to give the greater spirit to the increasing and diminishing of the voice, to exclamations and other passions, as is related' (ibid., 391). Concerning diction he says: 'unless the words [are] understood', the singer is not able to 'move the understanding' (ibid., 378). Caccini identifies two registers - chest and head. He warns against singing all songs in the same way.

In 1636 in Paris the monk and priest Marin Mersenne (1588-1648) published his encyclopaedic work *Harmonie Universelle*, which includes a treatise on voice and singing, *Traitez de la Voix et des Chant*. A precise description of the vocal mechanism as known at this time is given, based on the teaching of Galen. The first chapter includes paragraphs on the voice, the parts which produce it, the ear and hearing. This appears to be the first time the importance of hearing is mentioned with regard to singing. We shall see what Bacilly has to say about this when we come to his contribution. Mersenne writes about the muscles for breathing: the intercostals and the diaphragm; he observes that the source of the voice is the glottis and that the muscles and the nerves of the larynx are necessary in order to be able to sing high or low. He is very precise about articulation and

writes praising Baillif, presumably a well-known singer, 'who pronounces very distinctly and sounds all the syllables instead of stifling them in the throat, as do most of the others' (cited, MacClintock 1979, 173). Mersenne goes on to say that the voice is as individual as the face and that one can be recognized by this vocal individuality.

Like Mersenne, Bénigne de Bacilly (c.1625-1690) underlines the importance of having a good ear. The main cause of 'bad pitch' is 'ignorance of whole-steps and half steps... a good knowledge of notes can greatly contribute to its correction' (cited, Caswell, 1968, 28). He describes *cadence* (translated as 'vibrato') as a 'gift of nature' that sometimes becomes too slow or too fast. For Bacilly a pretty voice, 'is very pleasing to the ear because of its clearness and sweetness and above all because of the nice *cadence* [here *vibrato*] which usually accompanies it' (cited, Miller 1998, 301). Bacilly continues the two-register theory and appears to give singers the choice of singing in either register, 'Some people are proud of their high voices, and others of their low tone... [some] scorn the falsetto as being too shrill...' (cited, Caswell, 1968, 19). It may be that as much seventeenth century vocal music had a limited range of eleven notes, this choice was a reasonable option. On the other hand the policy may have been to avoid the difficulty of singing seamlessly through the registration events. This issue will recur in eighteenth century pedagogy. Other treatises of the late Renaissance refer frequently to unwanted nasality and out of tune singing. They demand beautiful tone but do not suggest ways of achieving this.

Eighteenth century vocal pedagogy became the cornerstone for vocal technique, and much of today's international Italianate teaching of singing is based on this. Breath management was paramount, and a common exhortation was '*filare il suono*' (spin the tone), which means control the airflow emission. Writers, among them Giustiniani, Mancini, Agricola, Tosi and Burney, called this 'portamento'. By 'portamento' was meant the literal translation 'carrying' - the carrying of the voice. This is not a complete description; a more accurate suggestion may be that it means the blending of equally matched tone with tone, both in quality and quantity, ascending and descending. It means more than just '*legato*'. We use the term

'portamento' today in an instrumental sense, for example, the linking of two or more intervals together.

Francesco Antonio Pistocchi (1659-1726), founded the Bolognese school about 1700. The elaborate, florid style of technique taught in this school closely vied with string playing. Antonio Bernacchi (c.1690-1756), a pupil of Pistocchi taught two of Handel's favourite castrati, Senesino and Carestini. It seems that in the very early seventeenth century operas predominance was given to the tenor voice, but after about 1640 the castrati appeared more regularly and took the dominant roles to the end of the eighteenth century.⁵

In Naples, Nicola Porpora (1686-1768), a great teacher rather than a great singer, (unusually a tenor, when tenors were generally considered unimportant) founded a school and was famed for his pupils, the castrati Caffarelli and Farinelli, the female sopranos Mingotti and Gabrielli, and the composer Joseph Haydn (1732-1809). Porpora was himself a pupil of Alessandro Scarlatti (1658-1725). This school became internationally famous. The aims of the school were to sustain (*cantabile*) and to move the voice (*cabaletta*), which anticipate the aria form (*cavatina/cabaletta*) of the nineteenth century.

Jean-Antoine Bérard (1710-1772) in his *L'art du chant* (1775) agrees with the international Italianate school as he discusses breathing for singing. He argues for the outwardly raised rib cage, the descent of the diaphragm and controlled breath exhalation as indispensable for good singing technique. He had studied anatomy and was probably one of the first teachers to propose a specific way of breathing for good singing. Great singers into the nineteenth and twentieth centuries used this method effectively. Pronunciation and articulation are also dealt with in his treatise. He admits that it would be easier if singing involved only simple sounds but then, of course, it would sound like instrumental music that cannot express the subtleties, emotion and ideas inherent in words. Bérard considered that all that was necessary to sing well was a correct raising and lowering of the larynx and good breath management. Concerning the raising and lowering of the larynx he had a strange idea that one raised or lowered the larynx for each degree of pitch or

⁵ See further, Appendix 1b.

semitone, although he was quick to point out that these measurements were not to be made absolutely strictly.

In 1723, the castrato Pier Francesco Tosi (c. 1653-1732) published his well known treatise *Opinioni de' cantori antichi e moderni, o sieno Osservazioni sopra il canto figurato* which was translated into many languages, and into English by Johann Ernst Galliard (1680-1749) in 1742. Like many before and since, Tosi was by no means, happy about the state of the art of singing, and complains, 'Gentlemen Masters! *Italy* hears no more such exquisite Voices as in Times past, particularly among the Women' (cited, *Observations on the Florid Song*, 1968, 15). The treatise is mainly concerned with ornamentation but Tosi makes general references to technique, for example, problems in breath management: 'The Master may correct this Fault, in teaching the Scholar to manage his Respiration, that he may always be provided with more Breath than is needful' (ibid., 60). He goes on to write: 'there are Singers who give pain to the Hearer, as if they had an Asthma, taking Breath every Moment with Difficulty, as if they were breathing their last' (ibid., 60-1). He also mentions two vocal registers, *voci di petto* (chest voice) and *voci di testa* (head voice) but without any suggestions as to how they were to be dealt with: 'for if they may not be distinguished; for if they do not perfectly unite, the Voice will be of divers Registers and must consequently lose its beauty' (ibid., 23). More is revealed about the articulators and their effect on the resonator tract. As with most in the Italianate school Tosi favours the use of lateral vowels, for example, [i] and [e] in preference to rounded vowels, for example, [ɔ] and [u] in the upper range of the voice on the grounds that they were less fatiguing. This may be the origin of the bright/brilliant Italianate sound that has, over the centuries been heavily criticized. On the other hand Tosi writes, 'that the higher the Notes, the more it is necessary to touch them with Softness, to avoid Screaming' (ibid., 19).

Tosi is not a little disparaging concerning the attitude of singers towards their health:

A discreet Person will never use such affected Expressions as, *I cannot sing Today; - I've got a deadly Cold;* and, in making his Excuse, falls a

Coughing. I can truly say, that I have never in my Life heard a Singer own the Truth, and say, *I'm very well To-day*: They reserve the unseasonable Confession to the next Day, when they make no Difficulty to say, *In all my Days My Voice was never in better Order than it was Yesterday* (ibid., 147).

He goes on to confirm one of my introductory premises:

It may seem to many, that every perfect Singer must also be a perfect Instructor, but it is not so; for his Qualifications (though ever so great) are insufficient, if he cannot communicate his Sentiments with Ease, and in a Method adapted to the Ability of the Scholar (ibid., 160-161).

In the main, Tosi wished his singers to learn by imitation and by hearing great singers. He, also, stressed the importance of a good ear, and like Caccini, warns against singing all songs in the same way. However, he disregards any anatomical or physiological description of the vocal organs. Although mainly directed to the castrati, Tosi used the same method with male and female voices.

It was not until 1741 that the functioning of the voice was more accurately explained. Anton Ferrein (1693-1769), a professor of anatomy, published a paper entitled 'De la Formation de la Voix Humane'. Some repudiated his findings. He describes the functioning of the human larynx, stating that the vocal folds vibrate as air passes between them and that pitch rises as the folds tense at the edges. Ferrein compares them with the strings and a bow of the violin family - hence, *cordes vocal* or vocal cords. This analogy and terminology is still in use today in some studios.

Giambattista Mancini, (1714-1800), a castrato soprano, was another renowned pedagogue. His treatise, *Pensieri, e riflessioni pratiche sopra il canto figurato* (1774) contains mainly, as the title suggests, thoughts and reflections on vocal ornamentation. At the time of publication of the first edition Mancini was a voice teacher at the Imperial court in Vienna. As he had been taught by Bernacchi his training would have been grounded in the traditional techniques of that period. Mancini was very concerned with resonance in relation to mouth openings:

the rules for the opening of the mouth cannot be general, nor can they be made universally the same for every individual... Some have wide openings, some narrow, and others medium...(cited, Duey, 1951, 103).

Mancini goes on to describe the natural positions of the buccal cavity and the use of the smiling posture to modify the shape of the vocal tract:

all faces differ in structure, and some are better proportioned for singing than others; nevertheless certain positions were best for a smooth, pure quality of tone, and certain positions would bring out a suffocated and crude tone (cited, Coffin, 1989, 8).

He even goes to the length of examining his pupils to see if they have any physical impediment or disease of the larynx, for example, that the tongue is flexible, and that the tonsils, soft palate and uvula are healthy. Duey quotes him as saying, 'Imperfect organs of voice are incurable and hence will inevitably result in imperfect singing' (1951, 129). Mancini devotes a whole chapter to the *messa di voce* , stressing that singers, in performing the crescendo to maximum strength, must not hold the throat or push breath into the tone. On the diminuendo the 'noble posture' must be maintained. He goes on to say that singers will become aware of how the body reacts to subtle changes of colour and dynamic. Very little is said about the technique of breathing for singing apart from how easy it is to inhale; what is of greatest import is dealing with the inhaled air. Mancini believed that 'the Italian vowels [i, e, o, u] could be sung on each note in the position of a smile with the [o] and [u] being slightly rounded... [Mancini felt] the [i] vowel was difficult and should be sung in the position of a "composed smile," ' (cited, Coffin, 1981 47-49). Unfortunately many teacher/singers misunderstood Mancini's smile position, hence distorted faces and distorted sound, very often at the most inappropriate time, for example, during a funereal song or opera aria. Mancini comments on the two registers which he calls 'chest' and 'head' saying that they should be equalized naturally and never forced: 'it requires ability and such a careful use of the voice to render it equally sonorous and agreeable, that few students succeed' (cited, Duey 1951, 114). Vocal agility is also an important facet in Mancini's teaching: 'A run and all kinds of agility must be supported by a robust

chest, assisted by the graduation of breath, and a light "fauces" (the opening leading from the mouth into the pharynx)' (cited, Miller, 1998, 304).

Chiaro/oscuo, a balanced 'light/dark' sound was Mancini's goal. He did not like the artificially bright *chiaro*. Good posture is said to be crucial, particularly head position and freedom in the neck muscles.⁶ A later translation by Pietro Buzzi, (1912) is dedicated to the tenor Alessandro Bonci who commented: 'If the modern scientific discoveries would blend themselves with the old Italian Method, using the latter as a foundation, then the Art of Song would again be raised to its former high standard' (cited, Coffin 1989, 7). Mancini mentions the vocal health of singers; he states that all parts of the body have to be in good health.

It thus appears from the foregoing account that the teaching philosophy of the eighteenth century was that when all the faults in the voice, such as uneven register change leading to a disturbance in the unified flow of sound, are eliminated we have tonal perfection. It is interesting to note that although Tosi and Mancini use different terminology they appear to mean the same thing. Mancini goes one step further than Tosi; he wants the singer to develop sensations of sound, a kinaesthetic approach we should call it today.⁷ One might say that Tosi was more concerned with performance and Mancini with sound, and that both leaned towards technical functioning rather than interpretation. Charles Burney (1726-1814), the music historian, met Mancini in Vienna in 1772, and was told by him that he was sure that he could transform poor voices into good voices given that he had enough time. Nonetheless, vocal insight in the eighteenth century was still grounded in observation and auditory sensation, although many of the results can be substantiated scientifically today.

Vincenzo Manfredini (1737-1799), although not giving any advice on how to proceed, insists in his *Regole Armoniche o sieno Precetti Ragionati per apprendere la musica* (1797,61) that vocal registers should be united so that they sound like one. Like Mancini he is very particular about posture and anticipates the 'noble posture' of *appoggio* technique:

⁶ Compare with the Alexander Technique of the twentieth century.

⁷ See further, Kay, Elster, *Bel Canto*, London: Dennis Dobson, 1963.

When singing, one should always hold one's head firm and straight; neither should one make any unbefitting motions with one's shoulders, arms, or any other part of one's body; on the contrary, one should hold oneself in a noble posture (cited, Duey, 1951, 65).

Although Manfredini encourages among other things careful listening in relation to the blending of registers, he offers no contribution to the physical act of phonation.

Good health, a sensible diet, regular sleep and physical exercise were generally accepted as part of the singer's training. There were many remedies for sick throats; raw garlic under the tongue, the fluid of the crocodile root boiled in water then drunk, and benzoin dissolved in water, then drunk. Singers were advised not to sing too high or too low for too long, and Tosi suggests that the best time for singing is with the rising of the sun.

At the present time many teachers all over the world use the same technical exercises and the question where they originated is often asked. In fact, most of the exercises heard in the world's studios today are from the Old Italian masters and with a competent teacher good results are achieved.

In Germany more and more musicians became voice teachers: Heinrich Schütz (1585-1672) declared that

[The singer] should not close the teeth together, nor open the mouth too widely, nor stick out the tongue over the lips, nor pout the lips, nor twist the mouth, nor move around the cheeks and nose like long-tailed monkeys (cited, Duey 1951, 66).

Johann Mattheson (1681-1764) left a detailed, though inaccurate, account of the vocal process, but declared that

the first and most important abuse in singing may well be when through too frequent and untimely breathing the words and thoughts of the performance are separated, and the flow is interrupted or broken (1739, 265).

He went on to say, like Tosi before him:

each singing voice, the higher it goes, should be produced increasingly temperately and lightly: however in the low notes, according to the same rule the voice should be strengthened, filled out, and invigorated (ibid., 266).

F.W. Marpurg (1718-1795) followed mainly in the footsteps of Schütz and suggests that a singer should avoid fog, cold, heat, smoke and dust. Johann Adam Hiller (1728-1804) wrote two books, *Instructions for CORRECT Singing* (1774) and *Instructions for GRACEFUL Singing* (1780), though he did not make any contribution to the functioning of the larynx in phonation. George Friedrich Wolf (1762-1814) published *Lessons in the Art of Singing* in 1784, his method was built upon that of Hiller; Johann Baptist Lasser (1751-1805) contributed *Complete Instructions for the Art of Singing*. There are no exercises included by Hiller and Wolf, but many by Lasser. Mattheson pleads that the good condition of the voice should first be found and then maintained by taking care of it and thus preserving it. He underlines the importance of a good diet and occasionally a little medicine - prescribed by medical doctors, and of eating only a little before singing. Hiller is very much opposed to forcing the voice, particularly during mutation. He, like Marpurg, warns against the dangers of impure air. Lasser agrees with all of the above recommendations.

Overall, German pedagogy was based on the Italian school, but nonetheless very little is said both in Germany and France about the blending of the registers before the flautist, composer and writer Johann Joachim Quantz (1697-1773) commented upon a different practice in those countries. This was the old practice of Caccini's time where singers sang in either of the two registers transposing the music to suit the voice, and even the natural break was acceptable. This natural break was also accepted in the twentieth century. In an interview with Jerome Hines, Marilyn Horne says 'We know from the records we've heard from Golden Age people that they didn't bother to smooth over the break. They just broke, went into the chest, and that was it' (1988, 140). Vibrato, too, was discouraged in Germany and France and this has implications for later singing schools. England held fast to the Italian teaching. There was a great love of Italian opera and many Italian castrati visited London. There was also a glut of teachers in Italy, many of

whom moved to England. Well-known among them were Dominico Corri (1746-1825), a student of Porpora and who wrote *The Singer's Preceptor*, (1810); Gesualdo Lanza who wrote *Elements of singing* (1813), and Jacopo Ferrari (1763-1842) who formed a singing school in 1825. They all had a very similar method. Domenico Corri (1746-1825) became one of the most influential teachers in Britain, particularly on account of his provision of practical examples of vocal embellishments of the period and exercises, the first exercise featuring *messa di voce*. Harris quotes Corri (1810) on performance and style: '...yet true intonation, the swelling and dying of the voice, with complete articulation of words, is essential to all' (1989, 99). However, Corri gives no advice on how to achieve this. He is adamant that the same vocal registrations are in all categories of voices, and he requires them to be blended throughout the vocal range. However, in holding that the voice should increase in volume as it rises in pitch and decrease as it descends, he contradicts the teaching of Tosi and Mattheson. Corri's proposal demands great skill in eliminating the registration events, and if not responsibly taught it could result in vocal damage. Corri has very little to say about the physiological nature of voice production.

Lanza realized the difficulty that his pupils found in pronouncing Italian vowels. He invited six beautiful girls to come and demonstrate the mouth position of the vowels. These mouth positions were reproduced on a page of his book, and it is interesting to see how Italians sang those vowels in 1813. The girls did not smile as they sang the vowels, but had 'pleasant' expressions on their faces. Lanza advised that the voice should not be strained when singing, that it should be allowed to grow slowly, and that a pupil should not sing high too frequently.

In France, the only practical early seventeenth treatise was by Jumilhac (1611-1682), *La Science et la pratique du plainchant*, 1673. His theories of voice production are based on Plato's dicta.⁸ Blanchet (1724-1778) published his treatise *L'art du chant* in 1756. He was not a musician, but had researched the mechanism of the human voice in great detail. He was very concerned with the use that can be made of the subtleties of posture and declared that all singing teachers should be familiar with the anatomy and physiology of the singing voice.

The great composer and theorist, Jean Philippe Rameau (1683-1764) has some practical suggestions for singers in his *Code de Musique Pratique* (1760). He has things to say concerning vocal function, and is particularly keen that vocal function should be free and easy. The German Johann Paul Aegidius Martini (1741-1816) who worked mainly in France has nothing new to say. Tomeoni (1757-1820), whose father was Italian, was an influential teacher of the Italian methods in Paris.

The Conservatoire Nationale de Musique was founded in Paris in 1795. The authorities required that a systematic method of teaching singing be produced. A committee was formed which included, among others, two Italians, Luigi Cherubini (1760-1842), the director of the conservatoire and the singing pedagogue, Mengozzi (1758-1800). The *Méthode* was divided into three sections: 1. The principles of Singing; 2. Solfèges from the best composers; 3. Arias for all characters from older operas. It was circulated in translation in both Germany and Austria and became the model for many future publications by French singing teachers. Incidentally, these new publications had to be vetted by the conservatoire before they could be used in other studios. Mengozzi asserts that the scale is the most necessary of all exercises and gives six rules for performing them. In 1803 the famous *Méthode de Chant du Conservatoire de Musique* appeared. It was the first book of systematic teaching to appear based on Italian principles. Mengozzi, who, it seems, was mainly responsible for this text, thinks it unnecessary to have a scientific definition of the vocal organs in the *Méthode*, but does specify the principal means of achieving good vocal function.

We now come to the much maligned term *bel canto*. Translated literally this means 'beautiful singing', but unfortunately it has become designated as a 'method'. Currently teachers advertise, claiming to teach the magical 'Bel Canto Method', something that does not exist. Probably what they are referring to is the Old Italian style of the seventeenth and eighteenth centuries, which emphasized the tonal beauty and vocal technique of the castrati. At this time the term 'bel canto', in fact an Italian coinage of the 1860's, did not exist. It did not appear in music or general dictionaries until after 1900 (Duey, 1951). It is interesting to note that all

⁸ See further, Appendix 1a.

the 'bel canto' that is professed to be taught today is based on the sound made by the castrati - a sound which, apart from the very distorted recording of Moreschi, we have never heard. An alternative hypothesis is that the modern, well-trained falsettist may very well have a similar timbre, and certainly has a similar range. However, falsettists sing mainly by the technique of not bringing the vocal folds completely together, whereas the castrati (c.f., Moreschi's recording) adducted the vocal folds in their middle registration but resorted to falsetto in their higher range.

Since there is unfortunately neither time nor space to list all the contributors to the art of singing in the seventeenth and eighteenth centuries, we have noted only a small sample of the most important. Several conclusions may nevertheless be drawn. During this period there was, broadly speaking, general agreement about teaching the art of singing, something which cannot be said of singing pedagogy today. Common standards could, therefore, be maintained during the period. Theories of vocal functioning were incomplete and often inaccurate, and played very little part in teaching, though in this regard Bérard and Blanchet were exceptions. Stress was placed on having a pleasant appearance, and on utilizing an inherent physical gift naturally. The singing teacher of note was an experienced performer whom the pupil could and should imitate. Lessons began at an early age and continued, without interruption, through puberty. Short cuts and quick fixes did not exist. Health and hygiene advice ranged from the sensible to the nonsensical. According to Harold Rosenthal four things were demanded from Italian singers: 'beauty of tone, agility, true musicianship and the study of the text, in that order' (Foreword, 1978, 12).

For all that Tosi complained about the decadence of singing in his time, Pleasants (1983) suggests that during the eighteenth century there were two 'golden ages' of singing; one between 1720 and 1740 with Farinelli, Caffarelli, Senesino, Bernacci, and Carestini and the prima donnas Faustina and Cuzzoni; and the other between 1770 and 1790 with Guadagni, Pacchierotti, Marchesi and Crescentini and the prima donnas, Mara, Todi, Banti and Catalani. Charles Burney (1726-1814), composer and musical historian, in his *A General History of Music*, II (1789), vividly describes the singing of Farinelli, Pachierotti, and the two rival

female singers, Cuzzoni and Faustina.⁹ Such judgements are impossible to substantiate in the absence of auditory evidence, but the impression given is worthy of note.

During the period under review singing became more and more self-centred. Whereas agility and bravura display was originally intended to heighten drama and emotion, the emphasis was increasingly placed on stylised performance technique rather than interpretation. Singers gloried in their virtuoso ability to create special effects by, among other things, agility, the sustaining of the breath for inordinately long phrases, the creation of cadenzas of an instrumental type, and elaborate embellishments and ornamentation. Many critics considered the panache of those who elevated vocal pyrotechnics above the music itself as decadent.

The nineteenth century

Thus far information on vocal pedagogical method has been scanty, but in the century currently under review there is a proliferation of writing in the field. It thus becomes possible to focus in particular upon the main pedagogues, while at the same time noting specific points of continuing interest.

Once again we are met with declarations bemoaning the great decline of the art of singing. Among the reasons for this are: bad teaching, change in repertoire and the advent of Wagnerian operas. However, since many singers of the period were well trained in the Italian school and in the repertoire of J.S.Bach, Handel, Mozart and Rossini, one would assume that they could adapt and cope with the change in style without damaging their voices. On the other hand, whereas some singers were able to fill large halls with sound, others had been taught always to sing gently and softly, and they would have had to modify and improve their technique. Even so, some singers, Heinrich Vogl and Lilli Lehmann among them, were singing Wagner well when they were sixty years old.

In the middle to late part of the nineteenth century there was a transition from 'bel canto'/romantic to verismo. Verismo, a realistic/naturalistic kind of opera,

⁹ See further, Burney Charles, *A General History of Music, II* London: 1789, ed. Frank Meyer New York: Dover, 1957, 682, 736-39, 745, 789, 886.

for example, Mascagni's opera *Cavalleria Rusticana*, demanded a darker and heavier sound, a new tonal ideal. The larger size of orchestra and the richness of orchestration required new kinds of opera singers able to assert themselves against the unprecedented volume of orchestral sound as in Wagner and Verdi operas. 'We are still not habituated to Signor Verdi's violent music' said the music journalist Henry F. Chorley (1808-1872), recollecting the year 1848 (posthumous, 1926, 217). He goes on to say, 'The year, in brief, in spite of every outward sign or honour and glory, was felt to be virtually one announcing decomposition and embarrassment' (ibid., 217). Similarly, he was moved to write, 'The year 1858 gave me yet one more opportunity of realizing the ruin of Italian music in its own country' (ibid., 387). Non-operatic songs were composed in a similar vein, apart from German lieder. Another outcome of verismo was the cult of the projection of the personality. Some students of the period suggest that various singers achieved greatness by virtue of their personality rather than by the skill or beauty of their singing.

There was much more scientific investigation of the voice, and great interest in voice production. The aim of the pedagogue was the cultivation of powerful and agile voices, with an emphasis on legato and sostenuto, so that singers could deal with the long, lyrical and beautiful wealth of melodies of this period. Such composers as Donizetti and Meyerbeer often indicated vibrato for expressive purposes in opera scores. Vibrato became an issue and much was written about it. It goes without saying that in the absence of recordings we have no evidence of the results achieved. We do, however, have the comments of some contemporary critics. H. F. Chorley, for example, disliked vibrato and describes it as 'the habit of trembling... [it] became more monotonous and tiresome than the coldest placidity could have been' (ibid., 146). He goes on to say, '...Signor Tamberlink had contracted the habit of vibration, which always, more or less, gives an impression of fatigue and premature decay' (ibid., 284). Tradition has it that the vibrato of instrumental playing was a positive imitation of the singing voice. George Bernard Shaw complained that vibrato was 'sweeping through Europe like influenza' (cited, Rushmore, 1971, 158).

The Spanish singing teacher, Manuel del Popolo Vincente Garcia (1775-1832) who wrote the treatise *Exercices pour la voix*, was taught by the Neapolitan teacher Giovanni Ansoni, (1744-1826), hence his training was Italianate. Garcia passed this teaching down through his own family: his son, Manuel (1805-1906), and his two daughters, the famed performers Maria Felicita Malibran (1808-1836) and Pauline Viardot Garcia (1821-1910). Before Garcia père, French scientists were becoming heavily involved with scientific vocal research. They were interested in the possibility that science could justify some of the precepts of Italianate teaching. Nineteenth century voice teachers became interested in these scientific writings with their implications for the improvement in singing and began to add, for better or worse, their own theories. Such teachers include Manuel Garcia II (1805-1906), who was trained in the Italian school and who taught in England towards the end of his career, and the Frenchman Charles Battaille (1822-1872). Not least because of the efforts of Battaille, Chorley was able to say, 'though betwixt Italian indolence and German transcendentalism... there is increasingly good training in France' (1926, 399).

Manuel Garcia II had a controversial career in some ways. He performed as a baritone, but after an unusually short performing career he is said to have retired because of vocal problems. He assisted in his father's studio and therefore continued to imbibe Italian method. Garcia II mastered the workings of the vocal instrument as then understood. He had enrolled in courses at the military hospitals in Paris and had also studied the excised larynges of dead animals. In 1831 he set up his own teaching practice. Among his famous pupils were Jenny Lind, Mathilde Marchesi, Julius Stockhausen, Charles Battaille, and Charles Santley. Lucie Manèn attributes the decline of the art of singing to the younger Garcia:

By using the vocal-cord mechanism, a singer could vary the music composed for him in respect of range and volume; but he was no longer taught to employ any of the timbres of Bel Canto (1987, 23).

Garcia's important contribution to the history of singing pedagogy is his *Traité complet de l'art du chant* (1840). This book contains exercises specifically for the development of power and volume. These include the singing of scales with a

messa di voce on each note. His infamous *coup de glotte* (stroke of the glottis) has caused much controversy and debate among singers, teachers and critics - especially George Bernard Shaw. However, Garcia himself felt that there was a misunderstanding which some have suggested may have arisen because he was not writing in his first language. Certainly if one reads his later work carefully it can clearly be seen that he qualifies what he had been understood to say about coughing by introducing the word 'slightly': ¹⁰

Q. What do you mean by the stroke of the glottis?

A. The neat articulation of the glottis that gives a precise and clean start to the sound.

Q. How do you acquire that articulation?

A. By imitation, which is the quickest of all; but in the absence of a model, let it be said that by slightly coughing we become conscious of the existence and position of the glottis, and also of its shutting and opening action. The stroke of the glottis is somewhat similar to the cough, though differing essentially in that it needs only the delicate action of the lips and not the impulse of the air (1911, 13).

A footnote on the same page, presumably added to the second edition by the editor Hermann Klein, explains the *coup de glotte* even more clearly (*ibid.*, 13).

The laryngologist used by singers at that time was Dr. Morrell Mackenzie, who was very often at loggerheads with Garcia.¹¹ They clash in print about the use of the laryngoscope (which Garcia was said to have invented), the training of children, and the number of vocal registers. Mackenzie, although acknowledging the benefits of the study of anatomy and physiology for singing teachers, insists that to have singers learning to sing by studying the vocal organs, particularly with a laryngoscope, is as absurd as a painter learning to paint by studying the eye with an ophthalmoscope.

Throughout his long career Garcia's views strayed from his Italianate training and dangerously so, not least in what he says about the manipulation of the larynx. With reference to his *messa di voce* scale he writes:

¹⁰ To this day the message has passed some 'grunting' singers by. See ch. 4 below.

¹¹ See further, Mackenzie, Morell, *The Hygiene of the Vocal Organs*, 7th ed., New York: Macmillan 1890.

...we have seen, this procedure stabilizes the larynx and contracts the pharynx. Then, without changing the position, and consequently the timbre, one will pass into chest register, stabilizing the larynx more and more to prevent it from making any abrupt movement, which might produce a hiccup at the separation of the two registers. Once in the chest register, one will raise the larynx and expand the pharynx to brighten the timbre, so that the student will begin the tone softly and in falsetto and dark timbre. (cited, Timberlake, 1990, 27).

Cornelius Reid believes that Garcia was looking to science for shortcuts in voice training, in so far as gaining direct control over the vocal instrument was concerned. This led him to introduce theories at variance with his initial Italianate training. Over such a long lifetime of teaching from such a well-known teacher these theories were bound to have a great influence. Reid blames Garcia for the demise of the 'old' school of singing, and his efforts to combine science and the art of singing has made Garcia a controversial figure to this day.¹² Garcia was, nonetheless, very highly regarded and is considered by many to be the greatest ever influence on the art of singing. Much of what he says accords with current scientific findings. Owen Jander writes of Garcia:

His personal teaching was in fact more influential than his *Traité*... Garcia's method was based upon a thorough understanding of the workings of the 'instrument' known at that time (larynx, throat, palate, tongue, etc), and covered as fundamental aspects such things as posture, breath control, enunciation and the use of the three registers ('chest', 'middle', and 'head') (1980, 345).

However, towards the end of Garcia's long life he appears to become less mechanistic and one might say he has come full circle.¹³ Sterling Mackinlay's justifiable conclusion is that,

¹² See further, Reid, Cornelius, *Bel Canto: Principles and Practices*, New York: Coleman Ross, 1950.

¹³ See further, Garcia, Manuel, *A Complete Treatise on the Art of Singing*: Part I. Editions of 1841, 1872 tr., coll., and ed. Donald V. Paschke, New York: Da Capo, 1984; idem, *A Complete Treatise on the Art of Singing*: Part II. Editions of 1847, 1872 trans., coll., and ed. Donald V. Paschke, New York: Da Capo, 1975; Paschke, Donald V., 'Manuel Garcia: Method and Controversy', *Journal of Research in Singing and Applied Vocal Pedagogy*, X/1 (December 1986) and X/2 (June 1988).

His Method may be summed up in the doctrine that it was *not* a method - in the sense that he had no hard and fast rules, - his object always being to make each pupil sing in the way most natural and involving the least effort (1908, 283).

Charles Amable Battaille was a leading bass in French opera, a physician, singer, researcher and teacher. He had more professional training than Garcia, and maintained a longer and more successful singing career. He felt it was necessary for all singers to have a basic knowledge of the physiology of voice production. Unfortunately his works are not as readily available in translation as those of Garcia, so his work has gone largely unnoticed in the English-speaking world. He disapproves of teaching by imitation, considering it dangerous. To him efficient breathing is the bedrock of singing. He advocates much disciplined technical practice in onset, breathing and vocalizes, maintaining that voices can be improved and strengthened with technical study, but that teachers should not attempt to try to make a voice into something it can never be. He insists that every voice is different and that the teacher must adapt to individual needs. He believes that his researches have justified much of Italian teaching and derides some of the newer methods. He made much use of the laryngoscope, improved its capabilities, and wrote up many detailed pages of his experiments that are, given the scientific knowledge of the time, both perceptive and accurate.

Neither Francesco Lamperti (1813-1892) nor his son were performers, but both were very revered teachers. Lamperti senior studied singing at the Conservatory in Milan, taught there from 1850-1875, and published his book *A Treatise on the Art of Singing* in 1877. He was another musician who bemoaned the decline in the art of singing and attributed it to the fact that singers were pursuing their careers on the stage before they were ready, and also to the absence of the castrati who, having left the stage, were regenerated in their pupils. The most renowned pupils of Lamperti were Marietta Alboni, Teresa Stoltz, Italo Campanini and William Shakespeare. Lamperti emphasizes posture as being all-important and demands a ringing quality of vibrato. But his treatise has as its base the breathing mechanism and his description of *lutte vocale* as the basis for breath management. He suggests that all notes from the lowest to the highest are

produced by holding back the breath, *lutte vocale* or vocal struggle, which is to say that when singing, the inspiratory muscles struggle against the expiratory muscles to retain the breath within the body. He says that good singing uses surprisingly little breath:

To sustain a given note the air should be expelled slowly; to attain this end, the respiratory muscles, by continuing their action, strive to retain the air in the lungs, and oppose their action to that of the expiratory muscles, which, at the same time, drive it out for the production of the note. There is thus established, a balance of power between these two agents, which is called the *lutte vocale*, or vocal struggle. (Francesco Lamperti, 1890, 25).

Some musicologists have suggested that the term *appoggio* was not used before the time of Lamperti. The full phrase is *appoggiare la voce*, which means to lean on, support or sustain the voice. It thus designates 'a technique, associated with the historic Italian school, for establishing dynamic balance between the inspiratory, phonatory, and resonatory systems in singing' (Miller, 1993, 155). Lamperti's English translator, J.C. Griffith retains the Italian terms:

By singing *appoggiata* is meant that all notes, from the lowest to the highest, are produced by a column of air over which the singer has perfect command, by holding back the breath, and not permitting more air than is absolutely necessary for the formation of the note to escape from the lungs (n.p.d, 22).

As we have seen the 'noble posture' (*una nobile attitudine*) of *appoggio* technique was anticipated by Manfredini in 1797 in his *Regole Armoniche*.

There are many references to the great Italian pedagogues of the past. In an attempt to unlock the mysteries of Italianate singing much of the literature of the nineteenth and early twentieth century leans either towards scientific and medical evidence, or towards a total disdain of both. However, a vigorous, international dispute arose about which is the most efficient and effective way of breathing for singing. It started with the publication by the Frenchman Louis Mandl in 1855, 'De la fatigue de la voix' *Gazette Médicale*. He equated low abdominal breathing with

diaphragmatic breathing, though in fact these are entirely different from each other. His aim was to enlarge lung capacity:¹⁴

A single muscle [the diaphragm] acts in inspiration; it enlarges the vertical diameter of the thorax. The forces expended to put it in motion are nominal, for it is only a question of the displacement of soft and mobile viscera in the abdominal cavity. When for the requirements of singing, a prolonged aspiration is necessary, the contest between the inspiratory and expiratory muscles is passed on to the same viscera and the thoracic walls experience no fatigue (Moure and Bouyer, 1910, quoted by Timberlake, 1995, 36).

Both Lampertis endorsed this view, surely owing to misunderstanding - it is not *appoggio* technique. Another problem is that it was wrongly said that the 'noble' posture of the seventeenth and eighteenth centuries cannot be maintained with a flaccid or distended lower abdomen/hypogastrium, whereas the reverse is the case. The confusion continues to the present day and many students are being taught the 'down and out' method of low abdominal breathing,¹⁵ which results from the failure to distinguish between the hypogastrium and the epigastrium. Let Miller make it clear:

There will be some outward motion in the epigastric-umbilical area (between sternum and naval) but little movement in the hypogastric (pubic) area between naval and pelvis... When the lower abdominal wall is forced outward, the costal area tends to move inward, thereby inducing more rapid lung volume reduction. This proves the fallacy of lower abdominal distention as a viable "breath support" method for singing. (1993, 25-26)

It is interesting to read in the English pedagogue Charles Lunn's book a quotation by a certain Dr. Harry Cambell from his *Respiratory Exercises in the Treatment of Diseases* (1898, 73). Campbell strongly disagrees with Mandl:

[Mandl] obtained a wide following, and in schools of singing most strange devices were resorted to for the purpose of fixing the ribs and compelling abdominal breathing; thus, the pupils were made to

¹⁴ See further, Chapters 3 and 4 below.

¹⁵ See further, Chapters 3 and 4 below.

sing while lying down on mattresses, sometimes with weights, more or less heavy, placed on the sternal region; masters were even said to make a practice of seating themselves familiarly upon the chests of their pupils (Lunn, 1906, 32-33 quoting Joal's *Respiration in Singers*, 68).

Lunn himself goes on to say: 'the evidence of evil is overwhelming, and is constantly on the *increase*, owing to the pseudo-science that prevails and the unchecked interference of unqualified persons' (1906, 33).

Giovanni Battista (Giambattista) Lamperti (1839-1910) was an accompanist in his father's studio as a child and had singing lessons from his father. He went on to teach in Milan, then Dresden and later in Berlin, and published *The Technics of Bel Canto* (1905). His most famous students were Martha Sembrich, Ernestine Schumann-Heink, and Roberto Stagno. It would seem that he agreed with his father that appoggio should be central to voice teaching. They both looked with gratitude to the past Italian masters:

The act of tone production is in 'contrary motion' to that of breath-taking; the pull of the diaphragm goes parallel with the inspiration, whereas the push of the abdominal muscles is felt to oppose it... although both stand in causal conjunction. The breath pressure increases regularly as the pitch in the tone rises [sic] (Lamperti, Giovanni, 1905, 9).

Lamperti II states that breathing efficiently is the foundation for singing and also maintains that singing should be a natural and health-promoting activity. The method for breathing which he advocates is diaphragmatic and abdominal - 'Expiration should be affected chiefly by the abdominal muscles in a gradual matter to spin out the tone' (cited, Coffin, 1989, 64). He was enthusiastic about the use of a mirror so that the pupil could monitor mouth openings for register changes and correct inappropriate facial expression.

All the written works of the Lampertis are essential reading for singers and teachers today. The maxims of Giovanni Lambert, written down by one of his pupils, William Earl Brown, are classics:

In my opinion, it is not absolutely necessary for a singer to have a big voice, nor even a pretty one: if one just acquires security of breath, purity of enunciation and legato, any voice will sound agreeable to the ear (1957, 4).

Unfortunately professional opera singers of the twenty-first century are normally required to have 'big' voices, to 'compete' against large orchestras and dense orchestration. This can lead to fatigue and abuse of the vocal mechanism. It is encouraging that one of the objectives of the present study is clearly spelled out by Lamperti II: 'In these times, when the demands of the singing art are growing vague, let us return to a study of physiology and the *older* Italian method' (ibid., 11).

Julius Stockhausen (1826-1906) was born in Paris and died in Frankfurt-am-Main. He trained at the Paris Conservatoire and with Garcia II in London. After a long singing career Stockhausen settled in Frankfurt and founded his own singing school, which had a great impact on German singing. His *Gesangsmethode* was published in 1884 and translated into English by his student Sophie Löwe circa 1886. Stockhausen was a pioneer in the linguistic approach to vocal pedagogy. He placed great emphasis on the study of vowels as indispensable for beauty of tone, and insisted that vocalizes should be practised on all vowels. He was aware of the importance of the tongue, lower jaw movements and laryngeal positioning in vowel formation:

The high or low position of the tongue, the lip modifications, the shortening or elongation of the cavity of articulation, and the great resulting variety of vibrations, giving corresponding shades of vowel tone, require a lower and quieter position of the larynx in singing than in speaking (1884, 11).

Although acknowledging a debt to Garcia, Stockhausen does not slavishly reproduce his teaching, and sometimes disagrees with him. He disagrees with the 'fixed' low larynx taught by his master and thought by many to be the basis of Garcia's method: 'It is still more surprising that he [Garcia] does not make his theory of the [fixed] lowered position of the larynx the basis of voice culture and

technique in general' (ibid., 16-17). Stockhausen quotes from Garcia's *Nouveau traité sommaire*:

The pupil must commence the note *piano* in *false* *setto*, and in the sombre quality. As has been seen, this process fixes the larynx and contracts the pharynx. Afterwards, without varying the position, and consequently the quality, he must pass to the register of the chest, by fixing the larynx more and more, in order to prevent it making the abrupt motion that produces the hiccup at the moment of the separation of the two registers (ibid., 17).

As we shall see in a later chapter neither view of the manipulated larynx is correct.

Stockhausen makes much use of the fifteen vowels and twenty-two consonants of the German language, and even in the English translation of his work vowels and consonants are of great importance and used specifically in his many exercises: 'By the study of the elements of speech we not only lay the basis for distinct pronunciation and good quality of tone...' (ibid., 9). Stockhausen's method anticipates the phonetic/phonemic work of D. Ralph Appleman and Berton Coffin in the twentieth century.

Emile Behnke, born in Germany (1836-1892), was a London-based teacher of voice production for speakers and singers. He researched alongside, wrote with, and was supported in his conclusions and method by, the laryngologist Lennox Browne and here they pronounce upon the *coup de glotte*:

The vocal ligaments meet just at the very moment when the air strikes against them; they are, moreover, not pressed together more tightly than is necessary... the attack is clear and decisive, and the tone consequently gets a proper start. The mechanism by which this is done is the 'coup de glotte' or 'shock of the glottis' (1890, 128-129).

Behnke very much dislikes the tremolo (vibrato which is too fast and too narrow), which he finds frequently among the French teachers at the Conservatoire de Musique in Paris. He states that:

students are deliberately taught the wrong method of inspiration; for, as we gather from the 'Methode de Chant du Conservatoire de

Musique,' they are told to 'flatten [or draw in] the abdomen' and to 'bulge out the chest' (1880, 20-21).

He espouses the theory of the stability of the larynx as opposed to the fixed larynx favoured by some of his contemporaries:

a teacher who insists upon his pupils keeping their voice boxes perfectly still commits a serious mistake, because it is always injurious to do violence to nature... [or] to attempt to prevent movements which have to serve a great purpose (ibid., 70).

Enrico Delle Sadie (1822-1907), an Italian and one of the very early Verdi baritones, ended his musical career teaching in Paris. His treatise *L'estetica del canto e dell' arte melodrammatica* was published in Italy in 1885. It is among the first books to make use of the acoustical theories of vowel resonance advanced by Helmholtz, a professor of physiology. Delle Sadie devised a vowel chart which was entitled *Modifications of the French A in the Modulated Voice of Singing*. Like Stockhausen he was aware that 'the intensity of the voice depends on the vigor with which the vocal cords put sound into vibration' (cited, Coffin, 1989, 45). He preferred the word 'sustain' to 'support' for the breathing mechanism, postulating that support suggests pressure, which may lead to fatigue of the vocal instrument. That the voice should be produced as naturally as possible was a great concern of his. Delle Sadie divides the voice into two sorts: the 'articulated' voice that is used for speech and the 'modified' voice that is used for singing. The former requires, but the latter does not necessarily require, articulation. It could be said that this was the first definition of the difference between speaking and singing. He remained very much within the tenets of the historic Italianate school and had a great influence on American vocal pedagogy.

Emma Seiler (c. 1875), a German singing teacher and writer, studied with Friedrich Wieck and was also a student of Helmholtz. She emigrated to the United States in 1866. Taught to sing in both the Italian and German schools, and advocating the voice as the most natural of instruments, she learnt the rules but not the reasons for them, and eventually succumbed to vocal problems. These led her into psycho-acoustic investigations with Helmholtz. Her goal was to become a

good teacher. And yet, surprisingly, she felt that the best way to teach was by imitation, hence men should teach men and women should teach women. She taught in Germany, and had an admirable reputation as a skilled and careful singing teacher. She wrote *Voice in Singing* (1866), which is grounded in scientific investigation. Like Stockhausen and Delle Sadie, she was especially interested in the formation of vowels, but she also specialized in the registers of the female voice. Her work is cited to this day. However Miller sees her treatise as 'a prototype of forthcoming Germanic pseudoscientific pedagogic literature that attempts in imaginative ways to apply physiology and acoustics to the singing-voice' (1998: 308).

Mathilde Marchesi (1821-1913), a German mezzo-soprano was born in Frankfurt-am-Main and died in London. Her earliest training was in Germany, but her most influential teacher was Garcia II, with whom she studied in Paris, and she applied his methods in her teaching. She preferred to teach groups rather than individuals,

I am of the opinion that class-tuition in every branch of study is superior to private lessons, and more especially for singing. The pupil learns a great deal by listening, the teacher is enabled to give those with weak voices frequent rests, while pupils who intend devoting themselves to teaching learn how the different kinds of voices have to be managed (1898, 212-213).

She taught women only, and among many celebrated students were Nellie Melba, Emma Calvé, Emma Eames and Mary Garden. Henry Pleasants describes her as 'the woman who produced more prima donnas than any other teacher in vocal history' (1983: 272). However, it was not only her teaching ability, which resulted in the promotion of her pupils.¹⁶ She had many influential contacts with such composers as Delibes, Godard, Gounod, Liszt, Massenet, Meyerbeer, Rossini,

¹⁶Douglas Stanley has this to say,

Her pupil - Melba - sang beautifully in spite of her teaching, because she did not interfere with this great singer's natural technic... She did radical harm to virtually every other pupil who studied with her and she developed an absolutely destructive school of 'white,' throaty, falsetto only singing (1945, 279).

Rubenstein, Thomas and Saint-Saëns. For Marchesi technique had to be mastered before interpretation: 'It is essential that the mechanism of the voice should be trained to execute all possible rhythmical and musical forms before passing to the aesthetical part of the art of singing' (1970, vii). Marjory Kennedy-Fraser is quoted in her *A Life of Song* (1929) as saying that Marchesi 'made a great point of the attack of the glottis, a dangerous practice possibly and one that the old Italians would have none of' (Walls, 1994, 30). However, Cornelius Reid sums up in her defence when he writes:

Both Garcia and Marchesi were highly cultivated and refined musicians, and it is inconceivable to conclude that either of them approved of a rude, energetic approximation of the vocal cords in the form of a tonal explosions (1983, n.p.n).

Unfortunately, as with so many carelessly worded statements, *coup de glotte* has been misinterpreted, and this mistake has found its way into the less skilled teachers' studios.

Scientists of today have difficulty in finding fault with the basics of Marchesi's writing. She was a proponent of the Italianate three-register theory who believed in and taught mechanistically from the scientific findings of that time. Marchesi recognized three types of breathing: '*Diaphragmatic* or *Abdominal*; *Clavicular*; *Lateral* or *Intercostal*' (1970, xi). However the foundation on which she built her technique was correct abdominal and diaphragmatic breathing. For female voices Marchesi believed that there were three registers: chest, medium and head, and she would not allow her pupils to sing vocalizes with consonants or words until the registers were blended:

To equalize and blend the *Chest* with the *Medium* register, the pupil must slightly close the two last notes of the former in ascending, and open them in descending. The same instructions that we have given for the change and blending of the *Chest* and *Medium* registers apply also to those of *Medium* and *Head* (ibid., xv).

Marchesi believed that the vocal resonators rather than the vibrators were responsible for the register transitions: 'no alteration [of the *Vibrators*] can be discovered in its functional activity as a *Vibrating body* that would account for the

different nature of the sound in the change of registers' (ibid. xiii). The many books of elementary and progressive vocalizes she produced demonstrate the thoroughness of her teaching. These vocalizes are still used in many studios around the world today. Unfortunately, with regard to registration events she recommended a lowered and mainly immovable jaw. Many of her elementary exercises begin with ascending passages, while current vocal fold function research recommends the use of descending passages, particularly for the young student and the less technically advanced. Doscher suggests that 'Ascending intervals, particularly over the register bridge, often are troublesome. The quality and weight of the higher pitch must be anticipated and prepared for in the lower one' (1994, 194). The last word about Marchesi at this point should be given to Pleasants: 'Marchesi's studios, first in Vienna and later in Paris, were the most efficient workshops ever designed for the developing of the human voice' (1983, 272).

Giovanni Sbriglia (1832-1916) was a Neapolitan tenor who, after having an international singing career, settled in Paris to teach. Among his famous students were Edward and Jean de Reszke, Pol Plançon and Lillian Nordica. He did not write a book, but Margaret Chapman Byers has left a record of his work in an article, 'Sbriglia's Method of Singing,' published in 1942 in *The Etude*, and reproduced by Berton Coffin (1989, 98). Although Sbriglia denied having a particular method he abhorred the new pushing method of breathing with the collapsed chest and declared: 'The foundation of my teaching is perfect breath control without tension' (ibid., 99). He had belts made for his singers to support the abdomen, 'You must have intestinal fortitude to support your *point d'appui*, or the focal point in your chest' (ibid., 99). The reason for the pushing out of the lower abdomen, he postulated, was that as singer/teachers aged there was a natural appearance of a stoop and so they experimented with what they thought was a new 'easier' method of breathing for their aging muscles. This method was, unfortunately, transferred to their pupils and is still adopted today in some studios. Nothing is known of Sbriglia's own training but from the evidence of his teaching it appears that he was of the historic Italianate School.

Lilli Lehmann (1848-1929), born in Germany and taught by her mother, believed that technical efficiency was more important than interpretation. In 1902

she published *Meine Gesangskunst* which was translated into English in 1914 as *How to Sing*. It has proved very popular.¹⁷ She draws on a mixture of traditions in her attempt to justify her own technique physiologically and acoustically. She advised that students should direct the effort of breathing towards the chest 'thereby setting the chest muscles in action. These combined with the elastically stretched diaphragm and abdominal muscles; the abdomen is always brought back to its natural position during singing' (cited, Coffin 1989, 114). She devised a particular diagrammatic scheme for subjective description of tone placement, stipulating a reference point for each sensation of rising pitch, moving the lower notes from the front of the skull over the top of the head to the back of the skull as the notes got higher. Geraldine Farrar and Olive Fremstad were two of her more famous pupils. Singers, as in earlier centuries, were expected to have competence in other musical disciplines.

Vocal health was important and many useful tips were given to singers. For example, female singers were advised not to wear tight corsets which, among other things, restricted the breath; to maintain a careful diet, avoiding everything that is indigestible; to drink chocolate and coffee in preference to tea; to avoid new bread and alcohol; to rise early and take a short walk before breakfast. Many singers smoked. Some thought a cigarette prevented the singer from taking cold on going outside after singing in a hot room. Some advice was good, some was bad. There are many tales of the idiosyncratic habits singers cultivated before performance: eating two salted cucumbers; an egg beaten up with a little sugar; sipping champagne; smoking two cigars; taking snuff; eating lamb cutlets and sucking a glycerine lozenge. Many remedies were suggested for weak chests, dry throats, throat clearing, hoarseness and colds. Again, some advice was helpful and some not:

¹⁷ Douglas Stanley writes very scathingly of Lehmann,

She knew nothing of science and had almost entirely lost her voice when she started to teach. In a book on singing [*How to Sing*, 1914] she propounded theories which can only be designated as preposterous nonsense (1945, 279).

Gentlemen troubled with a *weak chest* and susceptible to *Colds*, should bathe the chest and throat with Brown Vinegar, and afterwards daub it on with a sponge, letting it dry. Ladies may use White Vinegar. (Dunn, 1893, 82).

Recordings made in the early twentieth century by such singers as Adelina Patti (1843-1919), Emma Albani (1847-1930), Nellie Melba (1861-1931), Emma Eames (1865-1952), and Sir Charles Santley (1834-1922) give us some idea of the changes in style and performance practice.¹⁸ In addition to the golden ages of singing mentioned above in the eighteenth century, Pleasants suggests two further 'golden ages': first, the period of Pasta, Malibran, Lablache and Manuel Garcia père during the first half of the nineteenth century; and secondly, the more distinguished noted period *circa* 1880 to 1914, for which we have recordings of many of the singers.

During the nineteenth century three features stand out. First, the need to cultivate more powerful voices because of competition with larger orchestras and denser orchestration. Secondly, because of the demands made by the new style of opera (for example, Wagner's more mature works) and song, the art of improvisation and ornamentation tended to die out.¹⁹ After hearing the embellishment of one of the arias from his opera *Aureliano in Palmira* in 1814 by the castrato Velutti, in which his own melody had become almost unrecognizable: 'Rossini found himself confronted with insuperable difficulties in trying to identify what Vellutti was supposed to be singing; his own music, in fact, had grown completely unrecognisable'. Stendhal (1824) suggests that Rossini was a great influence in bringing excessive improvisation to an end (1970, 340). For his part, Verdi, from *Ballo in Maschera* (1859) onwards, banned singers from inserting

¹⁸ See further, Scott, Michael, *The Record of Singing, Vol I, to 1914*, London: Duckworth, 1977 with the accompanying *The Record of Singing*, EMI Records, I (RLS 724), 1977.

¹⁹ It must be said that Wagner greatly appreciated Italianate singing technique and Ernest Newman quotes him as saying:

"why cannot we [Germans] openly and freely admit that the Italian is superior to the German in Song, and the Frenchman superior to him in the light and animated treatment of operatic music? . . . The Italians are singers by nature. The less richly-endowed German can hope to emulate the Italian only by hard study" (1963, 188).

their own cadenzas and ornamentation. Thirdly, there was the rise in the serious study of voice science. However, as Margaret Kennedy-Dygas writes:

Dogmatism, elitism, and a naively complete trust in the new scientific evidence produced a dizzying muddle of publications from the final third of the nineteenth century into the twentieth century. Not surprisingly, many in the singing profession reacted negatively to the scientific study of singing, because it often seemed to confuse more than clarify (2000, 24).

All in all, the nineteenth century witnessed an important transition from the historic Italian School, which had been taught in all the major cities in Europe, and was largely based on observation and imitation, to experimentation and more scientifically grounded justifications of pedagogical method. There was a massive increase of pedagogical literature. Most of the 'classical' repertoire which includes lieder, the art song, the *mélodie* and opera, was composed and performed at the latter end of the nineteenth century.

The twentieth century

In addition to the new verismo operas, a wealth of songs was produced by the Italian composers known as *giovane scuola*: Catalani, Cilea, Francetti, Giordano, Leoncavallo, Mascagni, and Puccini.²⁰ The historic Italianate School of singing continued to flourish, but alongside, different tonal ideals were beginning to be embraced in France, Germany, Northern Europe and Britain. These in turn encouraged different vocal styles, which were not unrelated to the growth of nationalism in the several countries. Under this influence the traditional methodology began to be converted into supposedly 'national' styles of singing that in some respects were viewed as opposed to one another. Peculiarities of language began to emerge: French nasality; Germanic hard consonants and the Spanish aspirate. The French distaste for the florid Italian style and their dislike of the castrati began to prevail, and this was one of the first examples of the emergence of national style. The Germanic states became united; an individual liturgical style

²⁰ See further, Kimbell, David, *Italian Opera*, Cambridge University Press, 1991.

developed in the Lutheran tradition; song recitals were established, and the operas of Weber, Marschner and Wagner set out to glorify German culture. In Russia, Glinka, Moussorgsky and Borodin turned to Russian history and literature for their operas. Words were deemed more important than vocal display, and were accorded equal rights with the accompaniment. But, even so, Italy still influenced the emerging national pedagogies.

It is important for singing teachers to be aware of the divergences in 'national' vocal pedagogies in order that they can pass soundly based judgments upon them, and defend their own preferences. In the nineteenth century teachers imbibed and mixed aspects of different methods and twentieth century teaching is mainly an extension of the same. As with the previous section I shall sample a few of the main pedagogues who have made, or who are making, distinctive contributions.

With reference to the vocal pedagogical literature of the twentieth century, Jander says,

Musically this has been a rather barren tradition resulting in such books as E G. White's *Science and Singing* (1900), which may have some interest for the physiologist, but which have served also to bolster the charlatanism to which the singing teacher has at times been prone (1995, 346).

Reaction to the scientific emphasis is forthcoming in F. C. Field-Hyde's *The Art and Science of Voice Training* (1950) and Judith Litante's *A Natural Approach to Singing*, (1962), 'which set out to teach control of the voice while regarding its actual production as something more intuitive' (ibid., 346).

William Shakespeare (1849-1931), born in London, was a tenor, one of the non-Italians in the line of the Lampertis. His treatises *The Art of Singing* and *Plain Words on Singing* mention the *lutte vocale* taught by the Lampertis and support the historic Italianate School. Although written at the end of the nineteenth century, they were not published until 1921. Unfortunately some untoward aspects of technique creep into his work, among them, the spreading of the upper back as alleged assistance for breathing: a ploy favoured in many British studios.

Herbert Witherspoon (1873-1935) studied with G.B. Lamperti and was one of the founders of the oldest voice-teacher's associations in the world, The American Academy of Teachers of Singing. His treatise of 1925, *Singing*, is recognized as a 'standard' of modern vocal pedagogy. According to Miller,

Witherspoon's unique contribution originated in his conviction (1) that the singing voice primarily is a physical instrument that obeys the laws of efficient physical function, and (2) that the singing voice is an acoustic instrument that must be produced naturally in accordance with the laws of vocal acoustics (1998, 310).

Again,

His pedagogy was based on the language of function, yet Witherspoon stressed that singing deals not simply with mechanics ('muscles and organs cannot be locally controlled') and that it is linguistic and musical interpretation that finally control technique (ibid., 310).

Witherspoon founded an Institution of Vocal Art in America, which attracted over two hundred students and eight assistants. The students covered all aspects of vocal study including, unusually, vocal pedagogy. He went on to say of bel canto,

Because these magic words are in the Italian tongue does not mean that they apply to something only possessed by Italians ... In fact, I consider American voices, in general, better trained than those of Italy, Germany or France. The Italian, in particular, has very little knowledge of the scientific side; he usually sings by intuition (cited, Brower, 1996, 133).

Franziska Martienssen-Lohmann (1887-1971) was an important figure in German pedagogy, precisely describing in her writings, *Das bewusste Singen* (1923) and *Der Opensänger* (1943) details of breath-management and registration events according to the tradition of the Italian school. She dislikes many of the German practices, for example, heavy covering of the voice, too much use of head voice, and the low positioned larynx.

Georg Armin (1871-1963), a German, was noted for the advance of the 'heroic' voice of the German School and its influence on the North American scene. Miller describes Armin's damaging approach:

His breath-damming *Staumethode*, by which he believed the *Urkraft* (primal strength) of the vocal instrument could be rediscovered, led to several techniques of induced low-trunk breath-management maneuvers, including anal-sphincter occlusion and the cultivated grunt (extension of the vocal fold closure phase during phonatory cycles, with sudden release of glottal tension at phrase terminations) (1998, 309).

Frederick Husler (1889-1969) was born in the United States, taught mainly in Germany and died in Switzerland. He dedicated his life to the teaching of singing because of his own vocal ineptitude as a teenager. Yvonne Rodd-Marling a British pupil of Husler, collaborated with him in the production of his book, *The Physical Nature of the Vocal Organ* (1965). Many teachers in Germany, Britain and Canada follow the Husler Method. He believes that the teaching of singing has become too complicated and proposes a simpler and more natural way to sing. Husler bewails the traditional empirical method that was passed on from teacher to pupil. He criticizes singing teachers for having lost the ability to listen with a trained ear and regrets that so many singers today now specialize in one of the many fragmented methods of training the singing voice. Husler explains in the introduction to his book that 'It deals almost entirely with the *nature* of the singing voice and its organ and only incidentally with the "art of singing"' (1983, xvii). This could be a protest against contemporary methods which were heavily scientifically biased. He goes on to say:

The instrument of *singing* is a natural one, unlike that of speaking which is an obvious superimposition. Speaking (intellectual) is not singing (emotional, affective) and singing in itself is not yet music-making. In speaking and in singing even the simplest kind of music, the voice is engaged in services directed by the intellect (*ibid.*, 9).

However, the chapter on 'placing' is dangerous and misleading. Sound, as the acoustician will tell us, cannot be placed anywhere. While the authors acknowledge

this, they then proceed to ask the singer to 'place' the tone at the edges of the upper or lower front teeth; on the upper edge of the breastbone; at the top of the head and at many more locations. They attempt to justify these manoeuvres physiologically, whereas, the vibrations or sensations felt by one singer or teacher are very unlikely to be felt in the same way by the next singer or teacher.

Jean de Reszke (1850-1925) was Polish tenor who wished to express his own personal ideas about the art of singing rather than advocate a new method. He made an enormous impact on the art of singing in France. Although having some training in the Italian School as a baritone, he came to disregard the teaching, particularly with regard to posture and its influence on breathing, and later studied with Sbriglia.²¹ His aim for his students was relaxed breathing, so he favoured a collapsed chest with rounded shoulders. He advised the use of the sigh as a means to release the glottis and the tongue; a raised head posture with the head slightly back as though singing to the gallery; and placement of tone in the masque (De Reszke's own terminology 'singing in the masque'), and on the bridge of the nose, (which would unfortunately induce unwanted nasality). He further advocated the 'singer's grimace' for high notes.

Paris at this time was the opera centre of the world and De Reszke was renowned for his French roles until, unfortunately, he lost his voice. Apart from one or two isolated cases France did not produce famous singers during the twentieth century. This is sometimes attributed by French singing teachers to De Reszke's teaching. The situation, latterly, has begun to improve, owing to participation in international methods of study.

H. Plunket Greene (1865-1936) was another Englishman trained in the Italianate School. He wrote *Interpretation in Song* (1912). His Appendix is devoted mainly to breath management and legato and reflects accurately the teachings of the Lampertis:

His [the singer] chest, being raised, does not press on his lungs, and there being no chest to push out, he fills his lungs instantaneously and automatically without feeling it; not only so, but if the chest is raised and the breathing muscle expanded, rib-expansion - on which

²¹ See above, the nineteenth century.

good teachers rightly insist - follows of itself automatically, without any special attention. (1912, 293).

In Britain, there are at least three tonal ideals still being espoused. Of these one is generally based on the Italianate ideal; the next has traces of German technique, and the third is the very English 'cathedral' tone which has its roots in the British liturgical tradition, with its fondness for the 'purity' of tone as produced by the choral treble voice.²²

E. G. White (1863-1940) was born in England. In his book *Science and Singing* (1900) he first put forward his theory of Sinus Tone Production. His thesis is that the sinuses are the location of vocal tone production. Most current vocal scientists would repudiate this strongly by stating that there is very little, if any, resonating space in the sinuses except, possibly, for necessary nasal sounds. White answered his critics in his second book *Light on the Voice Beautiful*, and finally expanded his theory in *Sinus Tone Production* (1938). His theory when practiced is likely to result in the 'cathedral' tone ideal and because of the popularity of this sound E. G. White's ideas are still in use in some studios in Britain and America, even though there is no scientific support for his theories.²³

E. Herbert-Caesari (1884-?) was another influential pedagogue on the British scene. He wrote several books which endeavour to blend natural singing with the mechanical, and postulates six interrelated features or trains of thought. He contends that if any one of these is omitted his mental-physical ideal of the singing voice will not be realized. He lists three points of vocal technique, which in his reasoning is confirmed by science, and I quote the second:

(2) VOCAL TECHNIQUE demands a small piece of cord, flexibly firm, for the high notes (the higher the pitch the smaller must be the dimensions of the vocal cord employed).

Acoustic science demands a small and flexibly firm vibrator for producing high pitches (the higher the pitch the smaller the vibrator) (1936, 176).

²² See Ch. 3 below on vocal abuse.

²³ Elster Kay pulls no punches when he says, 'First prize for idiocy goes to the writer who said that vocal tone originated not in the vocal cords but in the sinuses' (1963, 83).

Douglas Stanley (1890-1958), was born in England and qualified as a DSc, had a damaged voice as a result of British teaching, and left to study voice in America. This resulted in his books *The Voice - Its Production and Reproduction* in which he discusses the scientific details of voice production, and *The Science of Voice*, in which he applies his updated scientific findings to vocal pedagogy. He writes:

All figurative or imaginative language has been avoided... Complete understanding of the scientific principles involved and the proper application of the devices and procedures employed are essential in order that the pupil's voice may be radically improved (1945, vii).

William Vennard (1909-1971), in his *Singing, the Mechanism and the Technic*, (1967), made an important contribution to the art of singing in the middle of the twentieth century. He nails his colours to the mast thus:

There are those teachers who feel that applying science to an art is quackery, but I believe that our only safeguard against the charlatan is general knowledge of the most accurate information available (1967, iii).

Vennard largely follows the historic Italian School, but, unfortunately, strays to the German/ Nordic methods of 'yawn/sigh', lower abdominal breathing, vocal registration and vocal tract positions. In his section on breathing he asserts,

In teaching [breath control] I sometimes make a fist and push it into the student's epigastrium while he attempts a long phrase. The muscular antagonism which he must set up in order to maintain a stiff epigastrium against my pressure often enables him to sing a considerably longer phrase (ibid., 34).

Berton Coffin (1910-1987) was an American who travelled widely and became an internationally known vocal pedagogue. He is mainly of the Historic Italian School, but deviates in some aspects, for example, his ideas of posture are very much in the French School - He argues for a 'sword-swallowing position' which encourages an elevated larynx and an appearance of singing to the gallery,

When one observes the taking of a breath as a reflex action, the head usually tilts back, just as before a burst of laughter or just as one begins to speak after a "brilliant idea." Likewise the sound comes out with the head slightly back. This inhaling action 'opens' the throat (1989, 140-141).

Ralph Appleman (1908-), a renowned singer, wrote *The Science of Vocal Pedagogy* 1967. He attempts to combine vocal pedagogy and scientific principles, but because his language and theory are difficult to render into lay-language, his work may not have had the impact that it deserves.

Richard Miller (1926-), was born in America, was a leading tenor, and is, among very many other things, Professor of Singing and the Director of the Otto B. Schoepfle Vocal Arts Center at the Oberlin Conservatory, also an Adjunct Staff member of the ENT Department of Cleveland Clinic. He has contributed many articles to journals and written several books, many of which are standard textbooks in the field. His eminence as a vocal pedagogue is securely rooted in considerable performance experience, masterly teaching and extensive scientific research. Miller has recently been described as 'the Dean of American vocal pedagogy'. He was trained in the Italianate school. Among his teachers were Luigi Ricci and Mario Basiola, followers of the Lampertis. In the Preface to *The Structure of Singing* he declares that 'Artistry cannot be realized without the technical means for its presentation. Systematic vocal technique and artistic expression are inseparable' (1986, xvi). In the opinion of Craig Timberlake,

Miller's devotion to *Italianità* has resulted in a unique and valuable pedagogy. In his study of other techniques as well - English, French, German, he introduces a multi-lingual vocabulary. In passing it on, he has substantially enlarged the possibilities for the development of a pedagogical *lingua franca* (1995, 38).

There are other pioneers and contributors to vocal pedagogy who should not go unmentioned.²⁴ Doubtless, some would include others in this list. In addition

²⁴ R.M.Baken, W.Bartholomew, M.Bunch, J.Chapman, T.Cleveland, D.Clippinger, R. Edwin, J.Estill, V.A.Fields, T.Fillebrown, V.Fuchs, W.J.Gould, J.W.Gregg, T.Hixon, V.Lawrence, R.Luchsinger, M.Mackenzie, M.S.MacKinley, L.Manén, P.M.Marafiotti, W.McIver, J.McKinney,

there are voice scientists, laryngologists, physicists and acousticians who have contributed to learning in physiology, acoustics, vocal function and vocal health and hygiene.

At the present time there are in Britain many disciples of the American pedagogue Jo Estill (1921-), who has pioneered her highly organized system which is orientated to 'feel'. The system is called 'Compulsory Figures' and involves exact controls of parts of the vocal mechanism, each of which has to be distinctly 'felt' and mentally numbered for a quick recall. 'Postural anchoring' is her term for appoggio, and she identifies what she describes as six voice qualities: speech, falsetto, cry, twang, opera and belt.

[Her] innovative system of developing voluntary control of the vocal mechanism through simple, effective exercises known as Compulsory Figures, has placed her at the forefront of voice trainers in the 20th century (Anne-Marie Speed, advertising leaflet, February 2001).

Estill has built up a language for her Voicecraft philosophy using imagery, for example, the '*sob* and *laugh*'; the '*twang*' and '*sirening*'. None of this 'new language' is necessary. It would appear to be much simpler to approach singing with a basic common terminology that means something specific and easily related to.²⁵

There are other speciality studios, for example, the crano-sacral therapy method which focuses upon the realignment of the jaw and overall posture; a school of Voice Movement Therapy which purposes to offer a synthesis of physiology, aesthetics, psychology and education, and trains usually with non-verbal sound; and an animal noise imitation studio as a basis for singing: the list is disturbingly endless.

Michael Scott contends that the successors of nineteenth century pedagogy

M.Meylan, D.C.Miller, D.G.Miller, R.C.Mori, J.Potter, A.Rose, R.Sataloff, H.K.Schütte, N.Scotto di Carlo, C.Seashore, R.Sherer, T.Shipp, D.Slater, A.Sonninen, J.Sundberg, J.Tarneau, J.Teachey, I.Titze, W.van den Berg, H.Von Leden, K.Westerman, and P.S.Wormhoudt.

²⁵ See further, *Vocal Process Ltd* which is the new name for EVTS (UK) - Estill Voice Training Systems. This company has evolved from British singing teachers, who are licensed by Jo Estill to teach her methodology. See also Kayes, Gillyanne, *Singing and the Actor*, London: A&C Black, 2000.

abandoned the attempt to impose the classical virtues on a generation which despised its traditions and had no use for its graces. Instead, embracing the new realism, they busied themselves with giving their pupils sufficient technique, chiefly a matter of power and stamina, to cope with its demands: in Italian opera with the strenuous accents required by 'verismo'; in Wagner with the forceful declamation of 'Sprechgesang'; in French vocal music with a style that preferred literary values. In all of them, the essentially vocal imagination of bel canto was sacrificed (1993, 1).

It is now generally accepted that the scientific era of vocal pedagogy began with Garcia's publications. Monahan suggests that treatises during the first half of the nineteenth century were written by singers or teachers. By the middle of the nineteenth century the number of scientific books on the voice roughly equalled the number of empirical ones, and by the end of the century almost all books published contained references to vocal anatomy and physiology. By that time most important treatises were written by medical doctors and scientists (1978, 226).

Because there are so many methodologies and variants singing teachers have to make informed intelligent choices. They need to know which method is most likely to encourage vocal freedom and efficiency. Singers must have no doubt about how their voices are going to perform technically. Without a sound technique one is building on sand, and without this sound technique there will be very little artistry in the performance. Let Rupert Bruce Lockhart on breathing, and Elster Kay on mental imagery as used by an unnamed but famous singer/teacher conclude this chapter,

I once attended in Paris a meeting of the Union des Maîtres-Chanteurs and the subject for the evening discussion was 'Breathing.' In the auditorium were over a hundred professors of singing or speech and on the platform three doctors (throat specialists) and one physical-culturist. I was taken by one of the most famous musicians and singing professors in Paris. We laughed helplessly all evening. There was almost a free fight. No two people in the whole assembly seemed to agree on a method of breathing. Insults were hurled around and two of the doctors finally turned their chairs back to back and refused to speak to each other. The evening ended with the physical-culturist illustrating an entirely different method from anything that had been exposed by the singing fraternity (cited by Rushmore, 1971, 149).

One is required to think of a ladder (two ladders) in one's head, a biscuit mould and a Hoover in one's mouth and a chimney in one's throat... The upper jaw has to be thought of as a long pointed bird's beak which, during singing, stabs into an apple. And, of course, during singing one 'must relax completely both body and soul.'

The picture conjured up... by all this metaphorical nonsense is of a strange comatose (and therefore silent) bird supported on the stage by a pair of stepladders, with a large green apple stuck on the end of its enormous beak, while a flow of dust-coated pastry streams into (for Hoovers are instruments of suction) its additional mouth while clouds of black smoke billow out through its ears (1963, 85-86).

2

ETHICS, PSYCHOLOGY AND VOCAL PEDAGOGY

Having discussed the historical background to the singing teacher's work, we now turn to consider the contribution which ethics and psychology (which, as we shall see, are frequently closely related) make to vocal pedagogy.¹ As already indicated, much of what will be said has applications to other branches of music teaching and, indeed, to the teaching of disciplines other than music. We may, however, find that at certain points there are applications of particular relevance to vocal pedagogy.

Ethics

Richard Bonynghe declares, with not a little gusto,

To say that five per cent of teachers are good would be an overstatement. There are a few who know what they're talking about, but there are an awful lot of charlatans (*Opera Now*, June 1995, 16).

However, Bonynghe is stronger on diagnosis than prescription, though his use of the term 'charlatan' does highlight the fact that the ethics of vocal pedagogy may not be overlooked. Throughout this work my proposals turn upon the

conviction that in an unregulated profession, one way of raising pedagogical standards, is to encourage those who employ the services of singing teachers to take great care in selecting those to whom they entrust their voices. That such selecting - and, indeed, the entire teacher-student relationship - has a significant ethical dimension I shall now proceed to show.

The scope of ethics is vast and varied. Very broadly it concerns the moral standards by which people live. In *descriptive* ethics accounts are given of the moral principles and practices of individuals or groups - from the ancient Greeks or Hebrew prophets to the modern entrepreneur or politician. But when we ask 'By what principles *ought* people to live?' we are seeking norms or guidelines; and when we ask 'What is the *analysis* of the ethical pronouncements made by people?' we are entering into the realm of meta (second order) ethics which is the territory of many modern moral philosophers.

Sufficient has been said to show that the question, *Ought* I to teach? may not responsibly be shirked.

Business ethics.

In a singing practice there are ethical obligations upon both the teacher and student.² The acceptance of a student is a business agreement that necessitates the drawing up of a formal contract, which should be clearly understood.³ A contract may cover some, or all of the following matters:

- (a) Number of lessons per annum
- (b) Payment of fees
- (c) Holidays
- (d) Cancellation of lessons
- (e) Required notice for the termination of lesson

¹ It would not be difficult to show that ethical-cum-psychological considerations come into play before ever a student signs up for singing lessons. For some indications of how this can occur in the context of a voice studio see Appendix 2.

² From the ever-increasing number of books and articles on business ethics (many of which concentrate on the corporate world), the following may be selected as containing chapters relevant to issues in professional ethics: De George, Richard T., *Business Ethics*, Upper Saddle River, New Jersey: Prentice Hall, 5th edn., 1999, ch. 18; Chryssides, George D., and John H. Kaler, *An Introduction to Business Ethics*, (1993), London: Thomson Learning, 2001, ch. 2.

- (f) Participation in examinations, competitions and public performances
- (g) The necessity of co-operation between student and teacher for progress to be made

The teacher has an ethical decision to make in the setting of fees.⁴ The answer to the amount charged will reveal much. In an unregulated profession like voice teaching fees vary considerably. There are 'pin money' teachers who, as one's own remedial work demonstrates, literally do not know what they are doing with the voice; and there are top professional singers who, whether or not they have pedagogical expertise, expect high fees. The rule of thumb is that fees charged should reflect the training and experience of the teacher and cumulatively they should not only cover living costs, but should allow for ongoing professional development which, in the case of the private teacher, will normally be self-financed. Since the students will benefit from the results, some allowance should be made when setting fees for the hours each day when the teacher is working (practising/rehearsing) but not earning.⁵

There is good reason to suggest that advertising be honest and dignified, clearly describing the services offered.⁶ Miller has this to say, 'To present oneself as having had career experiences and professional training not actually encountered is a form of professional robbery' (1996, 211). Exaggerated claims concerning, for example, the development of character and personality, should be avoided. Punctuality on the part of both teacher and student is obligatory. A useful idea is to have a notice on the door of the studio that invites the student to knock and enter at the appointed time. It is highly desirable that only a dire emergency should be allowed to interrupt the lesson; the switched-on answering machine is essential during teaching time.

³ See further, Watt, Laurence, 'The Law of Contract', in Ford, Trevor, ed., *The Musician's Handbook*, London: Rhinegold Publishing, 1996.

⁴ See further, Ford, Trevor, 'Income Tax and National Insurance', in Ford, Trevor, ed., *The Musician's Handbook*, London: Rhinegold Publishing, 1996.

⁵ See further, Polunin, Tanya, 'The Independent Teacher', in Ford, Trevor, ed., *The Musician's Handbook*, London, Rhinegold Publishing, 1996.

⁶ See further, Diggle, Keith, 'Marketing Yourself', in Ford, Trevor, ed., *The Musician's Handbook*, London: Rhinegold Publishing, 1996.

General pedagogical ethics

We come now to the teacher's ethical objectives of pedagogy. The singing teacher's primary moral obligation is not to do harm.⁷ It is vital that the teacher is readily able to diagnose the singer's problem(s) and be prompt in prescribing the proper solutions. It seems to me, based on long experience, that teachers should, therefore, possess a soundly based singing technique and be aware of the latest vocal research in scientific and medical circles.⁸ Teachers are under the obligation to teach self-sufficiency in their pupils; whereas refresher courses with teachers are desirable, students should not be dependent on teachers for every breath they take! While there are general principles upon which to base a sound philosophy of vocal production, nobody has the perfect teaching method. Hence the duty of the teacher to share with colleagues and professionals in cognate fields information and experience concerning methodology and wisdom. Gone surely are the days of vocal teachers charging each other with stealing their 'secret' vocal techniques.⁹

The underhand recruiting or poaching of other teachers' students must be regarded as unethical. If approached by a prospective transferee, it is not inappropriate to try to discover the reason for transfer either from the student or the current teacher; and it is quite in order to decline to take a student so as not to jeopardize our professional relationship with that teacher. On the other hand if the student has come to the point that an alternative pedagogical viewpoint might be helpful there are various approaches that might be taken. For example, a consultative relationship with the other teacher/s could be established during voice lessons, or a student could actually be shared for a term or two: a young baritone being taught by a soprano teacher might benefit from studying simultaneously with a baritone teacher for a short time. These ideas would tend to lead to a cooperative, mutual observation and improvement arrangement, rather than the more destructive competition of times past.

Accountability is ethically of great importance, particularly in an unregulated profession where, traditionally, singing tuition has been highly subjective and even 'mystical'!

⁷ See further, Introduction.

⁸ Throughout this study, where I give advice in this way, it arises from my experience.

The teacher and the student.

The philosopher Sir W. David Ross used to speak of the clash of *prima facie* obligations.¹⁰ This clash occurs when we are confronted by more than one duty and find it hard to determine which to perform. Many of the singing teacher's ethical puzzles are of this kind. On the one hand we have a duty to encourage students - some of whom may be nervous or self-conscious. On the other hand we have a duty not to pronounce a seriously flawed performance perfect. The way forward is often to focus on something that was right, to praise it, and give *positive* guidance which will improve matters. A good deal of this is at one level common-sense tact; the ethics has to do with our *obligation* to build up, not to destroy, the person who is paying us and for whose training we have assumed *responsibility*. Birgit Nilsson, a Swedish soprano who had a farming background, was told by her famous Scottish tenor teacher at her first Academy lesson, 'It doesn't matter if you have the best voice in the world if you have no brain, because it's really not for a farmer to become a singer' (Hines, 1988, 195). She went home in tears. In a similar vein, teachers should not take money under false pretences, praising the ungifted, encouraging unreasonable fantasies, promising the impossible. The ethical response may turn upon the degree of motivation of the student. An ethical question may arise such as whether to discourage a less than talented student or not. Every time a teacher decides whether or not to query or make recommendations concerning a student's vocally adverse life-style he or she is making an ethical decision as well as a pedagogical one. In conservatories teachers are more vulnerable than private teachers and would not be looked upon favourably, for various reasons (including enrolment problems), if they rejected such students as the one whom the teacher suspects as having vocal nodules, the smoker or the resistant student. In these cases private teachers have much more freedom in which to make their ethical decisions. Every teacher must weigh the factors involved when deciding whether or not to accept a student.

It is good ethical practice, and it builds up the student's confidence in the teacher, if a proper degree of confidentiality is maintained in teacher/student

⁹ See further, Miller Richard, *On the Art of Singing*, New York: Oxford University Press, 1996.

¹⁰ See further, Ross, W.D., *The Right and the Good*, Oxford: Clarendon Press, 1930, 18-36.

relations. Students' foibles, difficulties and calamities should never be the subject of gossip among other professionals.

Lessons must give value for money. The student has paid to learn how to sing. Too easily lessons can become counselling sessions of the unburdening-of-the-soul type. Whereas we must always present a sympathetic ear few of us are professional counsellors. In this connection E.W. Jones surely goes too far in suggesting, '... they must consider accepting a responsibility combining that of teacher with rabbi, parent, confessor, confidant, critic, analyst, fellow-artist, and a further list of required roles limited only by their empathy and imagination' (1989, 25).

Some teachers, perhaps because they are insecure, unprepared or incompetent, constantly interrupt performances; talk about non-musical things; discuss their own personal problems; tempt the student to go off at tangents; pay no attention to the performance; have students repeat performances unnecessarily; encourage visitors to interrupt; give a long-winded lecture for every mistake; cut lessons short; spend most of the lesson showing off; evangelise or preach to the student about religious, social or political issues when the slightest link to the music is found, all in order to fill up the lesson time.

The teacher, also, has an obligation not to reject those who appear to be lacking in ability, least of all those who go to great lengths to improve their performance. Miller considers that 'Some singers bloom early, some singers bloom late' (1996, 181).

Students, too, have ethical responsibilities. Some will attempt to waste lesson time in several fashions: interrupting their own singing over again several times - 'I just can't seem to get going'; taking control of the lesson by determining the order of procedure; requesting demonstrations; asking questions to avoid or delay performing; changing conversation from musical to non-musical topics; talking about personal problems; getting upset or nervous - trembling or crying; arriving late or cancelling or not completing the assignment.¹¹

¹¹ See further, Harris, Paul and Richard Crozier, *The Music Teacher's Companion*, London: ABRSM, 2000.

The teacher and the parent.

The teacher has a moral obligation to invite the participation of parents or guardians of those under eighteen, not least because they are probably footing the bill. An open studio policy will encourage the parent's involvement in the child's progress. It will provide opportunities to observe lessons and to have questions answered. In this way parents will become aware of the kind of support and home practice facilities needed if progress is to be made. Practice arrangements should be discussed.¹²

The teacher and the professional performer.

When professional singers come for consultations confidentiality is supremely important. It is unfortunately the case that many singers begin a promising career only to 'fade away' at quite an early age. They may have been under commercial pressure to do too much too soon; they may have over-worked; they may have faulty technique; they may not have had time for those regular check-ups with a competent singing teacher which are vital if the onset of bad habits is to be curtailed. The result is that they have vocal problems. When such professionals come it is imperative to observe the confidentiality of the confessional. It would be quite wrong, and it could have disastrous career consequences, to let it be known that this *Tosca* or that *Figaro* is having 'vocal problems'. The ears of the media would be alerted in potentially career-damaging ways. Teachers should go to the length of not arranging such consultations during normal studio hours, so that regular students will never pass a diva on the doorstep.

It is also unethical to use professional singers as 'advertisement fodder' for the teacher unless the singer's written permission has been sought and granted.

The teacher and other musical colleagues.

Students who are members of choirs, choral societies, or musical theatre groups can be at the mercy of directors who may not be trained in vocal

pedagogy themselves, and who make unrealistic and premature demands upon the voices in their charge. Enter the choir director who insists that a changing-voice adolescent male remain in the tenor section because of shortage of tenors, when his voice is sliding healthily into the baritone range. Or the conductor who can destroy musicality, defy the composer's intentions and threaten the reputation of soloists (who should not have to compete) by having the orchestra play at a constant *fortissimo*. Wherever possible in such cases singing teachers have an obligation to intervene discreetly on behalf of their students. Such teachers should not be regarded as interfering busybodies. A precious instrument belonging to someone else has been placed in the singing teacher's care, and money is being paid to have it properly trained and cared for.

The teacher and other professionals.

Let us take the laryngologist as an example. It would be ethically unacceptable for a non-medically qualified teacher to diagnose a physical or psychological vocal health problem or even to suggest, for example, that a student has vocal nodules. However, the properly trained teacher cannot avoid *suspecting* such problems in some cases, and is ethically obliged not to work with a sick voice. The suggestion should be made that the student seek professional help first and, with the student's written permission, the teacher may have a word with the appropriate general practitioner or laryngologist. Here, of course, the well-trained teacher will of necessity be equipped with technical terminology that the physician can understand.

In subsequent chapters we shall consider the ethics of examining, adjudicating, conducting master classes and performance.¹³ For the present we conclude that apart from its inherent desirability, the teacher who proceeds with ethical integrity is, psychologically, creating an atmosphere of trustworthiness that can only benefit the student/teacher, teacher/parent relationship. But this reference

¹² See further, Davidson, Jane W., Michael J. A. Howe, Derek G. Moore, and John A. Sloboda, 'The role of parental influences in the development of musical performance', *British Journal of Developmental Psychology*, Vol XIV, Part 4, November 1996, 399-412.

¹³ See further, Chapter 5 below; 'Ethics Revisited', *Journal of Singing*, LIII, No. 4, March/April 1997.

to psychology prompts us to turn to the contribution made to vocal pedagogy by that discipline.

General psychology

Since human beings are complex, most psychologists realize that no one psychological approach can encompass them. The available approaches can, for our purpose here, be classified into broad groups, although, owing to human diversity, aspects of different groups may overlap. Thus, for example, Hayes explains that 'the experience of emotion... has a physiological dimension, a cognitive dimension, a social dimension, a personality dimension and several more' (2000, 13). Among branches of psychology pertinent to vocal pedagogy we find 'cognition', which is concerned with the various modes of knowledge: perception, memory, imagination, conception, judgment, language, representation, and reason. It is closely related to social psychology, in as much as if the circumstances of individuals are unknown then it is unlikely that there will be adequate understanding of why they make certain decisions. This is both an example of overlap of the various approaches and also a useful principle for the voice teacher to grasp in relation to students. Physiological psychology involves the study of the mental and nervous systems, for example, the problems of stress. It also includes sleep, dreaming, consciousness and motivation. Psychologists are concerned with the connection to be made between cognitive, social and cultural aspects of human behaviour. Social psychology concerns the interactions of people with each other.¹⁴ Comparative psychology is preoccupied with animals; it endeavours to relate animal behaviour and development to that of human beings and is not directly

¹⁴ See further, Spender, Natasha, (I-III) and Rosamund Shuter-Dyson, (IV) 'Psychology of Music', *The New Grove Dictionary of Music*, Sadie Stanley (ed.), XV, London: Macmillan, 1980, 388-427, also Thurman, Leon, and Graham Welch, *bodymind & voice: foundations of voice education*, I, Collegeville, Minnesota and Iowa City; London: The Voice Care Network, National Center for Voice and Speech, Fairview Voice Center, Centre for Advanced Studies in Music Education, 1997, rev., 2000, chs. 8, 9.

relevant to this study.¹⁵ Developmental psychology will be dealt with later.¹⁶ Hargreaves and North are keen to point out that:

The rapid growth of research in music psychology has meant that several distinct tributaries of the mainstream are now clearly identifiable, the most prominent of which are those that focus on the cognitive, developmental, and social aspects of musical behaviour. These are of course closely interrelated, and indeed the interdisciplinary boundaries amongst the parent disciplines of music, psychology, education, sociology, anthropology, and cognitive science are in a constant state of change. In one sense 'music psychology' will always be an interdisciplinary area since musical behaviour itself is not functionally coherent (1997, 3).

Singing teachers would do well to familiarize themselves with the long-standing tradition of educational psychology, and also with developmental psychology and music psychology. The challenge is creatively and sympathetically to utilize the relevant findings of developmental and music psychology in relation to students at various stages of personal psychological development. Obvious though such a strategy may appear to be, even some well-known teachers continue in the line of William Lovelock who said, 'My own view is that the psychology of teaching is learnt by experience allied to common sense', (1965, 12). His own teacher asked, 'What's it all about anyway? Get on and play your Bach!' (ibid., 13).

Developmental psychology involves human development throughout the whole of life, from birth to old age (life-span). Among other things it concerns the development of language, cognition, intelligence, and social understanding. Hargreaves is among those who have argued that developmental psychology can provide a firm foundation for theory and practice in music education and he argues that 'the cognitive-developmental approach of which Piaget's theory is the predominant representative, holds the most immediate promise in this respect'

¹⁵ See further, Hayes, Nicky, *Foundations of Psychology*, 3rd ed., London: Thompson Learning, 2000, 701.

¹⁶ See further, Hargreaves, David J., *The Developmental Psychology of Music*, Cambridge: Cambridge University Press, 1986, rep., 1999, also Swanwick, Keith, *Teaching Music Musically*, London and New York: Routledge Falmer, 1999, also Radocy, R. E., and J. D. Boyle, *Psychological foundations of musical behavior*, Springfield, Ill: C. C. Thomas, 1969.

(1986, 227).¹⁷ Hargreaves goes on to say that it is up to the teacher to combine theory and research in the developmental psychology of music into a solid basis for their teaching and curriculum. This, however, begs the question.

There are three main theoretical perspectives within developmental psychology:

1. Cognitive psychology embraces cognitive social psychology and cognitive behavioural therapy. Some cognitive psychologists focus upon the processes of perception, memory, thinking, attention, reasoning, language and some types of learning.¹⁸ However, these themes are construed in a variety of ways. According to Hargreaves the main emphasis in cognitive psychology is on the internal rules, procedures and actions that people use in intelligent behaviour (information processing). Piaget's cognitive-developmental theory (*scheme*) complements information processing. Information-processing theory researches the flow of information taken into the mind, the way it is processed, and the resulting output, or behavioural response (Hargreaves, 1986).

2. Cognitive developmental psychology, which is the branch most easily employed in music education, has not been a main interest of many researchers in psychology.¹⁹ It is mostly associated with Piaget's *scheme*, whereby children make use of the 'building blocks' of cognition to understand their environment. These 'building blocks' change with experience and learning, but are developmental, related to age, and have common stages. However Gardner questions the validity of Piaget's work (1973, 73-88). He suggests that the medium of music, being time-based, is different, from the concrete 'building blocks' which are applied by Piaget's disciples to, for example, mathematical concepts. Gardner is interested in the development of aesthetic sensitivity, which he understands as irrational and intuitive owing to the nature of the arts. He advances a theory focused on a child's

¹⁷ See further, Zimmerman, Marilyn Pflederer, 'Percept and Concept: Implications of Piaget', *Music Educators Journal*, LVI no. 6, February 1970, 49-50 147-148; Hargreaves, David, 'The developmental psychology of music', in Spruce, Gary, ed., *Teaching Music*, London: Routledge, 1996.

¹⁸ See further, Günter, Horst, 'Mental Concepts in Singing: A Psychological Approach, Part I, *The NATS Journal*, ILVIII no. 5, May/June 1992. 4-8, 46.

acquisition of *symbols*. He describes the *symbol system* as the pre-school child's way of learning *via* the use of words, drawings, and make-believe. This, Gardner believes, is the main developmental basis for subsequent artistic development.

3. Behavioural psychology is a broad term which includes many different theories and may therefore be considered eclectic. Behavioural psychology in relation to musical development has often been researched in terms of *motivation* or *affect*.²⁰ The latter refers to the influence upon music learning of any kind of feeling or emotion attached to ideas or idea-complexes.

Against this background of general psychology an attempt will be made to apply the developmental psychology of music, along with general psychology, to vocal pedagogy. We shall set out from some general psychological points applicable to all age groups. We shall then turn to specific age groups, describing the developmental psychology of pre-school children; children aged five to twelve, adolescents and adults. In each case we shall consider the pedagogical responses appropriate to the developmental stage. As announced in the Introduction, other aspects of psychology, for example, psychology and health, performance anxiety, and emotion in relation to interpretation, will be treated in subsequent chapters.

General pedagogical principles

Student/teacher relationships

The student must always behave like a student and the teacher must always behave like a teacher. The teacher needs enthusiasm, efficiency, friendliness, good humour, humility, the realization that he or she can never know too much, an open mind and the experience and knowledge to change repertoire and method from time to time as appropriate. In a holistic or inter-disciplinary studio the first question of the lesson, 'How are you today?' should be more than a polite

¹⁹ See further, Deutsch, D. (ed.) *The Psychology of Music*, New York: Academic Press, 1982; Sloboda, John A., *The Musical Mind: The Cognitive Psychology of Music*, Oxford: Oxford University Press, 1985.

formality. An honest answer by the student may establish their physical or emotional state (this is not a question to be posed out of curiosity, or an excuse to indulge in amateur counselling), which may determine a change of content in the originally planned lesson. The pupil's name should be used frequently. Should students be challenged to deal with their programme or do teachers need to modify the lesson? An emotionally distraught person may not feel comfortable singing an emotionally intense song or aria. On the other hand a release of emotion from singing that particular work may be a good thing. Again it could be said that students should be prepared to control any personal crises during the lesson and get on with the job in hand.²¹ I have found that on psychological grounds it is good that lessons end on a positive note. Mackworth-Young offers the following advice, 'Give unconditional positive regard to the pupil, believing and trusting in him and his potential...' (2000, 12). The pupil should always leave the lesson feeling better, more confident and fulfilled. They should have enjoyed the musical experience, and should understand and look forward to what is expected from them in their home practice. As to home practice, I, in common with many other teachers, have made the not very surprising discovery that there is practice and practice. There is the unintelligent kind that is purely repetitive and builds in errors. Younger pupils' practice is often slapdash and hurried. This is often a result of distractions or lack of motivation. Teachers would do well to be aware, not only of the results of inadequate practice but of the reasons for it and should try to help the pupil find the remedy, by careful instruction in the lesson. Harris and Crozier give much helpful advice including,

Suggest, therefore, that practice takes place four or five times a week, perhaps at a regular time: before or after breakfast, before supper, before or after a favourite television programme (2000, 94).

It should be remembered that learning to sing can, for the total non-singer who is keen to sing (sometimes referred to as 'tone-deaf'), be a long, arduous task

²⁰ See further, Greer, R.D., (1978) *An operant approach to motivation and affect: ten years of research in music learning*, Paper presented at the National Symposium for the Application of Learning Theory to Music Education, Ann Arbor, Michigan, Reston, Virginia: M.E.N.C., 1981.

²¹ See further, Mackworth-Young, Lucinda, *Tuning In*, Swaffham, Norfolk: MMM Publications, 2000.

for both teacher and student. Mitchell begins his study of adult non-singers by saying, 'Poor pitch singers have traditionally been referred to as "tone-deaf", implying that an aural disability underlies the singing disability and then continues,

But more recent research (...reviewed by Welch, 1979) has rejected the notion of tone-deafness, suggesting that poor pitch singing is first of all a production problem, and that aural skills may suffer as a result, not a cause, of the inability to use the voice musically (1991, 74).

Lessons at the initial stage should be frequent and short. A tremendous amount of concentration is needed by pupil and teacher alike. Much repetitive, constructive, teacher-directed practice will be required of the student between lessons. The rewards of this industry are immense. There is the student's delight and excitement as noticeable improvements are made, and amazement as the treasure chest of vocal literature is opened and ever more of its contents are placed within their reach.²²

Teachers would do well to reinforce their tuition with recordings and concerts, keep up to date, not be strangers to TV soap operas, the world of computers, current dress fashion, pop groups and their hits, and football league tables in order to relate to the student's other world. It is important to make sure that the message is getting through. As mentioned above, teachers should be aware of body language, being especially careful to note the effect on the student's face of advice given or repertoire proposed. Accepting both positive and negative feedback is helpful, making sure that pupils feel that their comments are useful. There is much to be said for capitalizing on success and being aware of sensitivity; everyone has low self-esteem at some point in their life. Teachers would be well advised to identify students' strengths and weaknesses with a view to offering relevant guidance.

Essentially, a teacher needs a love of music, musical imagination, a thorough knowledge of the scientific basis of the subject being taught (a point to

²² See further, Goetze, Mary, 'A Comparison of the Pitch Accuracy of Group and Individual Singing in Young Children', *Bulletin of the Council for Research in Music Education*, no 99,

bear in mind by those who rely excessively upon image-based exhortations in their teaching),²³ sensitivity, patience, perseverance, tact, enthusiasm, administrative skills, punctuality, practical knowledge, and the ability to impart knowledge. The teacher should say, 'Try this,' rather than 'Don't'.²⁴ Patience is required on the part of the teacher so as to avoid teaching too much too soon. Something simple should be demanded, and the pupil complimented upon performing it successfully. Teachers can reward students' faith in them by building students' own faith in themselves. Teachers would do well to be flexible: is a lack of progress genuinely due to a lack of personal discipline or to something else, such as an unduly self-critical personality, or is it lack of patience?

Each learning experience should be creative, stimulating, appropriate and organized. What the teacher knows and takes for granted may be something completely new to the student. Each pupil should be treated as an individual with specific musical objectives, abilities and weak points, for whom the best kind of teaching will in some respects be different from that planned for other pupils. There should be a constant checking of progress, of standards achieved, quality control, and an awareness of boredom, frustration, and the personal satisfaction of the pupil.²⁵ Lessons should be a dialogue between partners. Teachers would do well to foster the ability of pupils to think musically and technically for themselves, eventually becoming independent and developing their own high standards and musical personality. Harris and Crozier comment:

Perhaps the most demanding and stimulating challenge faced by the teacher is to draw from the pupil that subtle ability to communicate something of their innermost self through the medium of musical performance. Without developing musical "personality", performances will remain uninspired and the central message of the music will not be communicated (2000, 4).

There is much to be said for teachers working towards the day when they can make themselves dispensable (except for occasional check-ups).

Winter 1989: 57-73; Rutkowski, Joanne, 'The nature of children's singing voices: Characteristics and assessment', *Canadian Music Educator*, XL no. 3 Spring 1999: 43-47.

²³ See further, Chapter 4 below.

²⁴ See further, Vennard, William, 'The Psychology of the Pupil-Teacher Relationship', *American Music Teacher*, XLVII no. 3, December/January 1997/98, 24-27.

Sensitive questioning like, 'What did you think about your singing?' allows students to get what they want to say out into the open, or 'What would you have done differently?' The teacher should wait for answers. Questioning helps to develop a self-critical, listening approach and encourages students to think for themselves. The teacher may say, 'If you don't understand something, ask me straight away and I will try to explain more clearly'. Students might be asked to explain aspects of technique back as though they were the teacher teaching a student. This is an excellent way of discovering whether or not what you have taught has been understood.

Occasionally there may be danger of the relationship breaking down because of hostility, or its opposite, adulation from students. Bruscia offers this guidance, 'While both parties are responsible for maintaining the relationship's integrity; the teacher must accept responsibility for spotting trouble signs and for taking steps to correct problems as they arise' (1989, 13). This can bring up the ethical question of whether or not to relinquish that particular student.²⁶

For musical success to be rewarding, the teacher has to recognize the student's musical achievements and give a good measure of teacher approval.

When a student has been granted an indication of respect for part of what he or she can accomplish, that student is willing to accept almost any degree of specific criticism. The important part is to start with some positive assessment, no matter how disturbing the student's limitations may be. Thereby a comradeship, a team ship is born (Miller, 1996, 7).

There must be a level of trust and effective communication. The teacher would be well advised to discuss any problems of young students with parents before they get out of hand, and welcome them to occasional lesson or informal concerts when all pupils sing, if only to parents.

Children learn to speak their first language by imitation and the method is very successful. Demonstration is 'showing how' by example. As we saw in the

²⁵ See further, Evans, Colin, 'Keeping track of progress', *Music Teacher*, May 2000, 22-23.

²⁶ See further, Bruscia, Kenneth, 'Building Effective Student-Teacher Relationships In The Private Music Studio', *American Music Teacher*, XXXIX, No. 2, 12-15, 56, October/November 1989.

preceding chapter this has been an accepted way to teach singing through the ages. But imitation alone is never sufficient and can be problematic as when a singer attempts to force his or her voice into the mould of another.²⁷

Explanations need to be clear. There is a great art in being able to explain clearly. A teacher may have more knowledge and qualifications than average but this is not a lot of use if it cannot be communicated to the student. It is wise to avoid redundant information in the explanation and an assumed knowledge in the student and to keep the explanations logically ordered, simple and short. A wise suggestion may be to include a summary of the key points, building on knowledge already possessed by the student, being both persuasive and patient. Both abstract and concrete explanations may be used where appropriate. Concrete explanations are more easily digested than abstract explanations. Teachers would be well advised to use, appropriate to age and interests of individual pupil: analogy and comparison; *reductio ad absurdum*; visual representation; and to express themselves unambiguously always trying to hear what they themselves are saying through the pupil's ears. There is much to be said for always encouraging students to ask if they do not understand; for reinforcing previously learnt material regularly, and for setting challenging but not unreasonable goals. We teach unconsciously by setting a good example, presenting only the best and having high standards. To aid the learning process pupils must be sure of what is required of them, why it is required, and the best way to do it. They must have practice, which is checked and evaluated, and opportunities to review what they have learnt. As teaching is a two-way operation and because, as stated above, students initially only absorb part of the teaching they have to make their own efforts to correct their own understanding. Learning is a personal hidden mental process over which teachers have no direct control. It is crucial for motivation that the level of work is appropriate. Teachers must be aware that the jargon they use every day may need clear explanation, similarly they must be aware that they probably have a wider vocabulary than their students and, therefore, some words may not be understood. Petty comments, 'teachers may tend to use more complex grammar than their

²⁷ See further, Chapter 4 below.

students. Keep your language simple; don't try to impress with over-formal English - it may alienate students instead' (1993, Ch. 4, n.p.n). In particular, in communicating to the young it is vital to use a more limited vocabulary geared to their experience.

Non-teachers sometimes believe that teaching is telling pupils something, and learning happens if pupils remember it. Not so: pupils don't just remember what the teacher has told them, but make up their own personal version of it. Learning is an active process; it is not simply a matter of receiving information. It is very important for students to be encouraged to think over, discuss and process the ideas in order, so that they become their 'own'. One-way of doing this is for students to teach the teacher what they have learnt, using the ideas, skills and knowledge that they have been taught. Skilful, verbal questioning is an effective tool, giving instant feedback. Petty states that

it ensures that the lesson moves at the student's pace; it gives student's practice in expressing their newly learnt ideas and vocabulary; it reveals incorrect ideas and assumptions; it can be motivating in that it demonstrates the success of the knowledge acquired; it allows the teacher to evaluate the learning and it develops high level thinking skills (ibid., 149).

Without questioning it would be impossible to develop genuine understanding and it teaches students to think for themselves. It is not only young students who misunderstand, it happens in all age groups. Exam howlers provide a good example: 'A common disease in wheat crops is wheat germ'. The teacher had never told the student that wheat germ was a cereal.

Learning and memory

Psychologists are still not absolutely sure how we remember or forget.²⁸ There is short-term memory, which stores information for as little as a few seconds; there is long-term memory, which can store information for a lifetime. However, most of what passes through our brain is promptly forgotten. Sometimes short-term memories are passed on to long-term memories. The brain does all this

automatically. If students are given too much information, or given it too quickly they will not have time to process it into their long-term memory. Teachers would be well advised to continually review and use information frequently. Seashore (1938, and still referred to today), had this to say,

While retentive and serviceable memory is a very great asset to a musical person, it is not at all an essential condition for musical-mindedness. A person may have naturally very poor memory of all kinds and get along well in music, just as an absent-minded philosopher may get along very well in his field. Furthermore, the possibility for the development of memory is so very great that with careful training a person with a very poor memory may improve this many-fold to the point of serviceability (1938, 7).

Students cannot be expected to remember every single word said by the teacher, but they can be encouraged to remember key information. Some teachers review the previous week's lesson at the beginning of the new lesson, or the last topic before the new one. This is all excellent practice as mentioned above.

The learning process in music involves two primary aspects: acquisition and retention of musical information and experience, and the development of musical skills. Both of these are included in the common use of the term 'memory'; thus, we have conscious memory, which is the making available of stored information and experience, and subconscious memory, which is a phase of habit, such as is exhibited in all the various types of musical skills in performance (ibid., 149).

Lovelock gives three basic facts for learning:

1. All that we learn is ultimately based on memory.
2. All that we learn is cumulative.
3. All that we learn must be based on understanding (1978, 19).

Learning can only be done by the pupil; the teacher has to provide the stimulating environment in which learning can take place. The student must take the responsibility for the learning; the teacher does not exist to pack knowledge into the passive or unresponsive student. Since students learn more by doing, than by

²⁸ See further, Chapter 5 below on the memorization of songs.

listening only to the teacher, this augurs well for the teaching of singing.²⁹ They need to be rewarded for their learning and this is where praise and encouragement come in, as mentioned previously.

Motivation

Good pedagogical practice would suggest that the teacher communicates enjoyment, and assumes success and commitment while not being afraid to challenge the pupil appropriately. It is highly desirable that the environment be stable, pleasant and non-threatening. Students should be motivated by enjoyment, the desire to succeed and success. Strong motivation advances learning because it increases attention to the job in hand, to mental effort, and to perseverance with difficulties. A good case can be made for praising partial success, for example, there is usually something being done correctly, and one can always praise effort (technically, behavioural psychologists call this 'positive behaviourism'). Criticism should be positive, constructive and sincere. The effect of self-praise and self-criticism is greater than teachers sometimes realize. Self-praise is an important motivator; it is the glow of satisfaction from achievement. Self-criticism can be destructive. Few teachers realize how little they praise.³⁰

Motivation is something that causes a person to act. Mackworth-Young contends that the student 'must be able to feel or "see" in his mind's eye the light, bright success beckoning at the end' (2000, 37). A good case can be made for teachers to reflect upon the purpose of trying to motivate students.³¹ Is it to aim for a perfect performance? Is it to inflate teachers' own egos? Is it to enable students become more musically efficient and enjoy the act of music making? Excellent teachers are self-motivated and their behaviour acts as a model for their students. Ultimately, it is up to the individual students to make choices as to what actions they should take. If teachers understand their own motivational habits then

²⁹ See further, Kemp, Anthony, 'Kinaesthesia in Music and its Implications for Developments in Microtechnology', *British Journal of Music Education*, VII no.3, 1990, 223-229; Petty, Geoffrey, *Teaching Today*, Cheltenham: Stanley Thornes Ltd., 1993.

³⁰ See further, Anderson, Margaret, 'A study of motivation and how it relates to student achievement', *Canadian Music Educator*, XXXVIII no. 1, Fall, 1996.

³¹ See further, Miriani, Dorothy, 'Motivation And Personality Types', *American Music Teacher*, XLI no. 6, June/July 1992, 18-21, 56.

they can knowledgeably help students motivate themselves. Motivation appears to be a learned behaviour; it is not innate. Self-discipline is necessary to reverse 'lazy', or 'can't be bothered' situations.³² High achievers are aware of the exhilarating feeling of success and have learned the goal-achieving actions that have led to their achievements. Self-motivators have clearly defined goals and a time frame; they are persistent and do assignments when they might not want to; they are dedicated to self-improvement; open to new learning; emotionally mature; they use failure to their advantage, and they take satisfaction from completed tasks well done. Eventually these habits become automatic. Specific honest and worthy praise is the teacher's best tool here. Innate student ability does not necessarily make a 'super-star', but effort and perseverance just might.

Learning plateau.

A commonly accepted idea is that when learning a new concept or skill there is an initial response from the student that gains momentum as the student gains confidence. This surge of progress tends to flatten out as a plateau of achievement is reached during which it is often difficult for students to feel that they are making progress. Once over this stage students will once more make progress at a rate which is obvious to both student and teacher and which will only flatten out as students reach the limit of their ability. At this plateau stage the student may easily lose interest, motivation and confidence without careful guidance from the teacher. The teacher could use this stage to expand the areas of musical experience.

Pedagogical structure

Why do many singing teachers teach as they were taught? Alongside teaching in the same way as their previous teacher/s, even the technical work and repertoire may be the same, with no thought being given to the stage of development and needs of the pupil in front of them. Teaching singing is not a hit-or-miss affair. Realistic goals must be established and an efficient, systematic,

³² See further, Wlodkowski, Raymond J., 'Overcoming Boredom And Indifference', *American Music Teacher*, XLI no. 6, June/July 1992, 12-17, 56.

individualized programme made available in order for the goals to be achieved. A teacher should not teach a series of isolated facts, but rather help students organize information into larger coherent principles or rules. Lessons should be organized around integrated themes, not trivial, unrelated bits of this and that, so called vocal 'wisdom' or 'quick fixes'. A coherent soundly based approach is far more likely to be internalised than isolated, unrelated 'tips'. Concepts are learnt through experiences, they cannot be taught directly, and it is the teacher's place to facilitate these experiences. They are not fixed, but are always in the process of formation at increasing levels of sophistication.

The cognitive domain is the area of learning associated with facts and ideas. It is recommended that teachers structure learning experiences that cause students to comprehend and apply knowledge, to solve musical problems, to create and select varying musical answers or responses, which requires them to use their knowledge in new situations. There is no one right way to teach. The mechanistic teacher ('do this') does not have a better method than the teacher with the aural method ('imitate me'). The best teachers have a variety of strategies for their students. The affective domain is concerned with the development of attitudes and values. Teachers would do well to lead students to make informed choices within the subject area, helping them to develop musical values.³³ It is suggested that teachers inspire their students to see music as an art, worthy of value. If artistry is a goal, it must be taught from the beginning.

Forward planning is important - knowing exactly what is to be taught and what the pupil needs to learn is essential. This is determined in relation to the individual's technical and artistic progress. The lessons should be relevant and progressive, and only one thing taught at a time. Materials can be organized for lively home practice periods. It is not denied that the imagination plays an important part in teaching strategy, but even inspiration needs to be rooted in reliable method.

It is necessary for teachers to decide on what they want to achieve, and how best to achieve it. The plan can then be carried out and evaluated and the question - Did you achieve your aims? - answered. The answer may reveal that the

aims need to be changed. These pedagogical questions should be addressed in relation to the several domains of psychology. These are as follows:

1. The cognitive domain (intellectual skills and abilities): knowledge, comprehension, application, analysis, synthesis, and evaluation.
2. The affective domain: attention, interest, awareness, aesthetic appreciation, moral aesthetic and other attitudes, opinions, and feelings or values.
3. The psychomotor domain: motor or physical skills, sense perception, hand and eye coordination.

Against this general background let us now consider the psychological situation of specific age groups.

Specific age groups

Pre-school

Singing has a strong biological basis, undergoes regular developmental stages in young children, and can facilitate cognitive abilities.³⁴ We begin to sing (or should) as soon, or even before, we learn to speak. Unborn babies' hearing develops as early as three months.³⁵ At three and a half months into pregnancy babies are able to distinguish their mother's voice, and are capable of hearing voices in the outside world. 'Babies learn to recognize their mother tongue in the womb, can distinguish a foreign language within days of being born...' (Bailey, 2000, 2). They not only hear voice, but also feel it. Embryos become accustomed to the vibrations they receive in the womb when their mother sings. This is carried over into infancy and childhood - the parent speaking or singing cheek to cheek often easily comforts a child. The combination of vibration and contact appears to be soothing and reassuring. Midwives worldwide will quote examples of the newborn

³³ See further, Chapter 5 below.

³⁴ See further, Swanwick, Keith, *Music, Mind, and Education*, London: Routledge, 1988, 52-87; Fox, Donna Brink, 'Music and the Baby's Brain', *Music Educators Journal*, LXXXVII no. 2, September 2000, 23-27, 50.

³⁵ See further, Amtmann, Inger-Marie, 'Music for the unborn child', *International Journal of Music Education*, XXIX, 1997, 66-72; Morgan, Rhian, 'Young ears', *Music Teacher*, October 2002, 38-39.

who sing at birth - a very different sound from the usual birth cry, and then they discover that the mothers are opera singers. Tiny babies, lying in their baby seats, have been known to 'sing along' at their mother's singing lessons. As Carl E. Seashore has pointed out,

... we find that the basic capacities, the sense of pitch, the sense of time, the sense of loudness, and the sense of timbre are elemental, by which we mean that they are largely inborn and function from early childhood (1938, rep.1967, 3).

The strong sense of rhythm with which children are born probably comes from the nine months in the womb spent next to the mother's heartbeat. Shuter-Dyson and Gabriel have produced an interesting table:

Milestones of musical development

Ages

0-1 Reacts to sounds.

1-2 Spontaneous music making.

2-3 Begins to reproduce phrases of songs heard.

3-4 Conceives general plan of a melody; absolute pitch may develop if it learns an instrument.

4-5 Can discriminate register of pitches; can tap back simple rhythms (1981, 159).

During the first year of life song babbling is evident.³⁶ Between three to six months there is a positive response to musical sounds and the baby will often turn its head in pleasure towards the direction of the sound. 'Research in Canada shows that six-month-old babies recognize wrong notes. "Play *Twinkle Twinkle Little Star* to them and put in an incongruous note and they are on to it like a shot"' (Fawkes quoting Paul Robertson, 1996, 25). Babies experiment in making different sounds, as they learn to control their lips, tongue and mouth. Sometimes a sustained sound turns into a musical note. Later they may react with movements, rhythmic or not, to the music. There is often recognizable spontaneous singing as early as six months.³⁷ The developmental sequence usually proceeds as follows: the child is

³⁶ See further, Titze, Ingo R., 'Should Vocal Training Follow vocal Development in Childhood?' *Journal of Singing*, LVIII no. 2, November/December 2001, 161-162.

³⁷ See further, Moog, H., *The Musical Experience of the Pre-School Child*. trans. C. Clarke, London: Schott, 1976; Ostwald, P., 'Musical Behaviour in Early Childhood'. *Development. Med.*

able to sing melodic-rhythmic patterns of higher and lower notes, but without accuracy of pitch because of the inability of the larynx to co-ordinate with the mentally envisaged sound. Infants of six months have been able to learn, with training, to match pitches in their range (C4 to A4).³⁸

In the second year there is much more physical movement and babies enjoy dancing with other people and by the age of eighteen months they can often co-ordinate rhythmically with the music (*ibid.*, 65). Two-year-olds are capable of repeating a single, brief melodic phrase, e.g., 'Miss Polly had a dolly', and will sing spontaneously short phrases of their own composition repeatedly, but with varying pitches. The ability to develop complex phrases advances. Some three year olds may sing the correct pitch, but that usually comes later. Welch suggests that after infant babbling, where sound is played around with as

glissandi and groups of musical pitches and phrases in a repetitive fashion... words and fragments of song text... become the focus of attention, followed by certain rhythmic features, and, subsequently, the pitch components (1994, 3-19).

Supplanting this is: 'Words - Rhythm - Pitch'. Following this, Welch continues, is: 'Pitch Contour - Individual Phrase Stability - Overall Key Stability'. He goes on to say, 'By the age of five to six years, young children's singing may have acquired many of the features of the significant adult models'.³⁹

Spontaneous singing of four year olds was studied by Veldhuis, who reported that the singing was organized, generally with restricted intervals in pitch, and had clear short melodies. She notes that for stimulus they use objects like musical instruments and environmental sounds, and that their singing is contagious (1984, 15-24). L. B. Miller found that preschoolers create songs and imitate rhythms with body movements and, unprompted, will chant and sing-a-long with recorded music (1989, 206-224).

& *Child, Neurol.*, 15, 367-375, 1973. Ries, N.L., 'An analysis of the characteristics of infant-child singing expressions: replication report', *Canadian Journal of Research in Music Education*, 29, 5-20, 1987.

³⁸ C4 -A4, USA Standards Association will be used throughout this text rather than Helmholtz. See further, Dowling, W. Jay, 'Melodic Information Processing and its Development', *The Psychology of Music*, ed. Diana Deutsch New York Academic Press, New York: 1982, 413-429.

Parents, carers and all adults should listen to pre-school children more closely and encourage their singing so that they may benefit both directly musically, and indirectly in respect of other aspects of their development. During pre-school and primary years children show very positive attitudes to many kinds of music. Therefore this is an ideal time to draw upon their responses and introduce them to a wide variety of music. There is much to be said for active interplay between parent and child: singing at bath time; story time; on the way to the park; in the car and listening to sounds that occur naturally all round them, encouraging movement to musical sounds and rhythms, for example, singing games and nursery rhymes. The point here is that rhythm is the first thing children grasp when learning a song, and teachers would do well to capitalize on this. Nursery rhymes are useful here. Increasingly children are being deprived of this repertoire, which benefits a child's general education as well as his or her musical development. Nursery rhymes can aid listening, concentration, memory, good speech through careful pronunciation of the words, vocabulary extension, the recognition of rhyming words and rhythmic patterns, awareness of musical phrases and dynamics (the list is endless), and ultimately the awareness of pitch which leads to singing in tune. Care must be taken that the rhymes are sung at pitches appropriate to the age and physical development of the child, beginning with rhymes that contain only a few notes and progressing to those with a wider range. Most three-year-olds can cope with somewhere between C4 and G4, the perfect fifth above.

The singing of such rhymes is more productive than passive listening to music, which becomes musical wallpaper. However exposure to music that includes wide varieties of rhythms, timbres, volumes or harmonies that excite the child may be played. Children will be their own critics of what they consider boring and will 'switch off'. There are many pre-school music groups in the United Kingdom to be found for children to attend, some drawing on the traditions of Orff and Kodály. There is much to be said for pre-schoolers having access to percussion instruments, for example, chime bars, castanets, maracas, marimbas, gongs, bells, drums, cymbals, rattles with which to freely and creatively experiment with and delight in sound and rhythm. Carefully chosen appropriate recordings for them to

³⁹ See further, Morphew, Richard, 'Let the Children Sing', *Singing*, no. 32, Summer, 1997, 28-32.

listen to would be of benefit. At all times singing or chanting along either individually or with others with what they play and hear should be encouraged. Spontaneous, improvised chants often develop into impromptu singing games and others, again, will join in. The important thing is to make available these opportunities for the young child in order to nurture their musical invention and development and, it goes without saying, their enjoyment.

Piaget made the following basic assumptions about how children learn:

1. The child does not think like an adult.
2. The child learns by becoming involved with concrete objects.
3. The child learns intrinsically (from within) not extrinsically (from without).
4. The child evolves intellectually through the generative nature of the prior experience and the quality of the current experience.
5. The child learns through the adaptation of new schemas (formation of concepts; categorizing perceived data).
6. The child uses two interdependent activities, assimilation and accommodation, in this adaptive process. Assimilation is the taking in of perceptual data, accommodation is a modification in the way of thinking to accommodate perceived data.
7. The child strives to establish equilibrium when assimilating and accommodating new data (Andress, 1980, 133).

Piaget goes on to divide intellectual development into four stages:

Sensorimotor - up to 2 years
 Preoperational - 2 to 7 years
 Concrete operations - 7 to 11 years
 Formal operations - 11 to 15 years (ibid., 133).

Childhood aged five to twelve

Our consideration of children aged five to twelve may begin with Hargreaves' lament that there are, 'no coherent psychological theories of the specific developmental processes underlying children's musical perception, cognition or performance' (1986, 3). On the other hand there have been several studies of development in rhythmic perception, notably by Zenatti (1976), who found that children aged four to five were able to clap back two to four note

rhythms, and that they improved with practice.⁴⁰ Other studies have shown consistent development in the rhythmic skills of children aged between six and eleven (Stambak, 1960).⁴¹ Hargreaves goes on to say, 'that by the age of six or seven, children possess many of the fundamental skills required for full-scale musical perception and performance' (1986, 83). Gardner is in total agreement and once again implies that Piaget's philosophy of 'concrete operational thought' (ibid., 83) is not applicable to the 'artistic process' (Gardner, 1973).⁴² He further suggests that:

a reasonably competent 7-year-old should understand the basic metrical properties of his musical system and the appropriate scales, harmonies, cadences, and groupings, even as he should be able, given some motifs, to combine them into a musical unit that is appropriate to his culture, but is not a complete copy of a work previously known. What is lacking is fluency in motor skills, which will allow accurate performance, experience with the code, tradition and style of that culture, and a range of feeling life (ibid., 197).

Following on from this, Hargreaves and Zimmerman (1992) say that psychologists are now moving away from the identification of age related stages - the problem has been in determining the specific ages at which changes take place in cognition - towards a more culture-specific and domain-specific description of human development. Unfortunately this relies on children's verbal ability, which may affect their understanding. Research by Bamberger (1982) and Davidson and Scripp (1988) has used graphic representation by children, for example, in pitch and rhythm variations.

School has an important influence on musical experience; this involves exposure to songs and music and builds on children's pre-school learning. Much of this experience is unstructured and spontaneous as opposed to direct training.

⁴⁰ See further, Zenatti, A., 'Jugement esthétique et perceptive de l'enfant, entre 4 à 10 ans, dans des épreuves rythmiques'. *Année Psychologique*, 76, 185-90.

⁴¹ See further, Stambak, M., 'Trois épreuves de rythme', *Manuel pour l'examen psychologique de l'enfant*, ed. R. Zazzo, Paris: Delachaux and Niestlé, 1960.

⁴² See further, Warrener, John J., 'Applying learning theory to musical development', *Music Educators Journal*, LXXII no. 3 1985, 22-27; Andress, Barbara, *Music Experiences in Early Childhood*, New York: Holt, Rinehart and Winston, 1980; Mussen, Paul Henry, John Janeway Conger, Jerome Kagan, Aletha Carol Huston, *Child Development and Personality*, New York: Harper Collins, 1990.

Sloboda uses the terms *enculturation* and *training* to make a distinction between the two types of development (1985, 213).

Incidentally, how damaging to young children to be told that they cannot sing - a hurt that typically stays lifelong and can cause much distress. Many believe that *all* music is not for them, and alienate themselves from this great source of pleasure and enjoyment. In turn, their own offspring may be deprived. Very often, unfortunately, this sorrow is instigated by singing teachers who ban 'growlers' from the school choir or ask them to mime.⁴³ This in turn raises the ethical question of auditioning a prospective schoolchild before registering them for singing lessons. Whereas over-protection of a child is unhealthy, what psychological damage will be done if the child is rejected? As the voice is a reflection of the personality much harm may be done. In this situation teachers would be well advised to assess according to enthusiasm and give the child an opportunity to have a go.

Most researchers agree that pitch discrimination improves as the child gets older but are not agreed about how, and precisely when, this happens.⁴⁴ The singing teacher would do well to be aware of young children's interpretation of such words as 'more' and 'less', 'higher' and 'lower' with regard to pitch discrimination, for example when a pair of tones are played melodically and the question is, 'Does the second sound move up or down?' Similarly the use and concept of the words 'same' or 'different' can influence the child's decision. Understanding of these words varies between the child and adult. The musical competence of the child should not be in question.

Pitch discrimination can be improved by training, see above the 'tone-deaf' singer. Welch suggests that poor pitch discrimination is the result of poor pitch control in singing (1979, 50-8). Children need to be taught to listen with concentration, similarly, adults need their listening skills to be honed. Teaching any

⁴³ See further, Welch, Graham F., 'A schema theory of how children learn to sing in tune', *Psychology of Music*, XIII no. 1, 1985, 3-18. Jones, Marilyn, 'Using a vertical-keyboard instrument with an uncertain singer', *Journal of Research in Music Education*, XVII no. 3, Fall, 1979, 173-184. Rutkowski, Joanne, 'The nature of children's singing voices: Characteristics and assessment', *Canadian Music Educator*, XL no. 3, Spring, 1999.

⁴⁴ See further, Shuter-Dyson, R., and C. Gabriel, *The psychology of musical ability*, 2nd ed., London: Methuen, 1981. Yarbrough, Cornelia; Judy Bowers, and Wilma Benson, 'The Effect of Vibrato on the Pitch-Matching Accuracy of Certain and Uncertain Singers', *Journal of Research in Music Education*, XL no. 1, 30-38.

age group to listen is hard work; it takes time patience and imagination on the part of the teacher. Learning to listen carefully is essential for motivation and development to take place. Various fun listening games, listening with eyes closed to the noises of the immediate environment, listening to different musical instruments, the list is endless, can be devised to aid this learning skill. Frequent practice is necessary. Many teachers have found it helpful, because of the need for lots of constant reinforcement in order for children to progress in a lively and interested way, to present the same material in many different imaginative guises - quite a challenge. The enthusiasm of the young child must be constantly monitored and ways devised to maintain this enthusiasm.

Coming now to the acquisition of tonality, scholars are agreed that children conserve familiar tonal melodies more readily than unfamiliar atonal music. This seems rather an obvious proposition, but much is made of the fact that they are absorbing the melodic contour of tunes rather than assimilation by pitch/ interval relationship. Bartlett and Dowling suggest from their experiments that transpositions to different keys of a familiar melody 'Twinkle, twinkle little star' were easily recognized. However when an incorrect interval was played in the same tune it went unrecognised.⁴⁵ This varied with the age of the child. Five-year-olds were able to recognize transpositions in a far key but not a near key transposition. They were unable to recognize the interval change in the melody. Eight-year-olds were much more able to distinguish between both near and far key transpositions and interval change. Evidence shows that tonality develops about the age of six.⁴⁶ Hargreaves sums up by saying: 'The acquisition of tonality is thus comparable with language acquisition, in that the general capacity to master a language is a maturational one that is independent of exposure to and training in the particular language acquired' (1986, 92).

Harmonic skills appear to develop in the same way as melody acquisition but more slowly, in some cases not reaching their peak until the age of seventeen. Experiments have been made in recognizing melodies in counterpoint, and being

⁴⁵ See further, Bartlett, J. C., and W. J. Dowling, 'The recognition of transposed melodies: a key-distance effect in developmental perspective', *Journal of Experimental Psychology: Human Perception and Performance*, VI, 501-15.

aware of the difference between consonance and dissonance subjectively perceived. Here terms such as 'beautiful', 'pleasant', would be used for consonance. However two theories have been proposed, one 'natural law' and the other 'cultural'.⁴⁷ 'Natural law' is based upon intervals and 'cultural' is based upon familiar interval sounds built upon lengthy culture. P.A.D. Gardner and Pickford propose that the context of the chord sounded can make a difference in the perception of whether or not it is consonant or dissonant (1944, CLIV, 274-5). It is interesting to note that some children do not like the sound of certain intervals, as played on the piano, and this changes with age. For example, according to one study there was no preference for discords over concords until the age of nine, at eleven children preferred concords and disliked discords.⁴⁸ Many other studies have been made of these preferences.⁴⁹

It goes without saying that children with a musically stimulating home respond better than those without. Such an environment includes parental singing and instrumental interaction with their children, the availability of recorded music, and parental attitude towards all aspects of music. It is interesting to note that in a study by Davidson, Howe, Moore, and Sloboda it was found that the most successful children in music were those whose parents played a full role in lessons and practice, and that the children without this support tended to be the ones who lost motivation, became bored and gave up their instrument.⁵⁰ Unfortunately conclusions could be drawn from the relationship between social class and musical development. Researchers are often middle class and the test materials used are often intellectual classical music. This raises the question of possibly overlooked variables, and hence the question of the validity of the research findings.

⁴⁶ See further, Imberty, M., *L'aquisition des structures tonales chez enfant*, Paris: Klincksieck, 1969.

⁴⁷ See further, Lundin, R.W., *An objective psychology of music*, 2nd ed., New York: Ronald, 1967.

⁴⁸ See further, Valentine, C.W., *The experimental psychology of beauty*, London: Methuen, 1962.

⁴⁹ See further, Bridges, V. A., 'An exploratory study of the harmonic discrimination ability of children in kindergarten through grade three in two selected schools', Unpublished doctoral dissertation, Ohio State University, 1965; Imberty, M., *L'aquisition des structures tonales chez enfant*. Paris: Klincksieck, 1969; Sloboda J.A., *The musical mind: The cognitive psychology of music*, Oxford: Oxford University Press, 1985.

⁵⁰ See further, Davidson, Jane W., Michael J. A. Howe, Derek G. Moore, John A. Sloboda, 'The role of parental influences in the development of musical performance', *British Journal of Developmental Psychology*, XIV no.4, 1996, 399-412.

Problems may arise because of peer pressure; this often happens with the boy singer, or the boy singer who is the only male member of the school choir. The teacher needs to be aware of this and support the pupil where possible.

Children learn through play and through positive social reaction with others.⁵¹ Music is a part of this and children find this an ongoing part of their individual and social part of everyday life. For this reason it is well for the teacher to think of the child as he or she is now, and not to think only of the singer he or she may become. Flusser has drawn upon the Polish paediatrician, Korczak Janusz in order to understand this point:

first, [Korczak] affirms that the child is not to be considered as a 'future-state being' but as a 'present-state being.' Second, he maintains that in order to enter into a true pedagogical relationship with the child, we have to hold affection for him... Maintaining that the child is a 'present-state being' starkly contrasts with a wide range of educational theories, strategy sequences or behavioural studies that aim to help children 'progress' from their present state towards the realization of a project that we have decided for them. Maintaining that the child is a 'present-state being' modifies the assertive pedagogic approach, because it alters the relationship of *authority* between the child and the educator in that the educator is no longer sole *author* of the pedagogic project (2000, 43-44).

Adolescence

Adolescence has traditionally been considered a more difficult developmental period than childhood. It is a period of change, not only physical, sexual, psychological, and cognitive, but social. Youngsters have reached the stage in cognitive development known as the formal operations stage, in which they can reason about hypothetical problems and explore alternative possibilities in a systematic search for solutions. Some often become preoccupied with self, think others are thinking about them all the time, and may become self-conscious. Others sail smoothly through adolescence. It is important to give them a sense of purpose, stimulating their 'realistic' ambitions, and encouraging self-confidence.⁵² It is very

⁵¹ See further, Wood, David, *How Children Think and Learn*, Oxford: Blackwell, 1988.

⁵² See further, Osborne, Corrynne, 'Encouraging Confidence and Self-esteem in Young Singers', *Singing*, no. 40, Summer 2001, 21-22; Cooksey John M., Graham F. Welch, 'Adolescence,

often a time when because of exam pressures at school they feel that they must terminate their singing lessons. Again, the teacher's support and encouragement are necessary, and imaginative ways should be sought to deal with the situation. Termination of lessons must be discussed thoughtfully, perhaps suggesting a lightening of the workload at revision and school examination times in order to avoid complete withdrawal from singing.

The physiological aspect of the changing voice of both boys and girls will be dealt with in the following chapter. All the training and habits of earlier years can suddenly get out of kilter. Both teacher and young person should be well prepared for this; possible embarrassment can then be avoided. If this change is anticipated, the temporarily 'awkward' area of the vocal range is unlikely to go out of control and technical vocal work can continue in a limited way, working carefully with the pitch and range available. The motivational approach can be something like: 'You are about to be given a new voice, deeper, richer, stronger, maybe more beautiful. A whole new repertoire of songs will be available'. Incidentally some boys deeply regret the loss of their treble/alto voice. Recordings of the progress of the voice are interesting for them to hear, and certainly physiological explanations, videos, and diagrams of the changing of the vocal mechanism are sure winners. Very often, under an appearance of bravado or assumed indifference the adolescent really wants to sing well.

Tension, with its mental origins, may well be a factor which the teacher will have to reckon with in the cases of adolescence and adult students - it also frequently rears its ugly head with younger children. The teenager, like the adult, may bring certain musical sensitivity and experience to the pedagogical situation that can be utilized by the teacher.

Boredom is considered to be a common state for many adolescents, but it can arise at any age. However, children and young people are not slow to articulate their feelings when bored, 'Boring, it's boring'. This is sometimes expressed indignantly and with gusto, 'Been there, done that'. Monotony in the singing lesson is frequently a cause; doing the same things over and over again becomes dull, the

routine of practice can become tedious. If students do not see purpose in what they are doing work becomes wearisome. Lack of challenge can make students feel as though their progress is standing still. Teachers must look at what is responsible for the boredom and what helps the student to develop interests in order to find learning stimulating. Unfortunately, what adolescents find interesting and stimulating depends on what they have been exposed to as well as their present development needs, and we are back to parental responsibility for influencing and extending children's experiences. Very often Britney Spears is preferred to Beethoven. We are now coming into the realm of aesthetics⁵³

Some tried and tested methods to regain interest are: providing variety in learning; relating, where possible, to pupils' interests; being unpredictable; using unusual teaching methods and content; asking questions which go beyond the usual rote memory, for example, questions which make them reason or think creatively; providing consistent feedback; creating lessons that have a finished product to aim for; encouraging student choice in the learning situation; fostering success in learning; using as much encouragement and praise as possible within the constraints of integrity (as mentioned previously).

Adults

Methods of teaching adults are similar to those of teaching younger age groups, but there will be differences. Adult learners are usually highly motivated - no one is making them have lessons and they are paying for themselves. Some have clear ideas about what they wish to achieve, others are apprehensive as to whether their voice is good enough to warrant lessons, or even whether they have any talent at all for singing. They feel vulnerable. Others wonder if they are too old, and some wish to return to music. Others are reminded of how they learnt skills as a child and were in awe of the teacher, and are very dependent on approval. They need respect, praise and encouragement in the same way as - perhaps even more than - the young person. Some are quick to say that they understand rather than admit that they are unclear on a teaching point. Some will want to go into great detail on specific points and hesitate to take the teaching at face value as a child might.

⁵³ See further, Chapter 5 below.

Teachers should consciously aim to foster an equal relationship based on mutual interaction and respect. It takes a lot of courage to attend the first lesson. Well-taught singing lessons should be of benefit to any voice and nobody is too old to learn to sing well. Involvement in music can help adults stay more alert at any age, including the later years, and can increase the quality of life.

Does lack of pitch response in adults affect their aesthetic judgement? There has been, to my knowledge, no research done on this so far. 'Tone-dumb' a better description than 'tone-deaf' adults have a problem of listening to themselves singing and not recognizing that they are out of tune. Welch focuses on this problem of listening to oneself (1985, 3-18). Harvey, Garwood and Palencia, on the other hand, emphasize the role of perceptual learning independent of what the singer hears (1987, 90-106). But it still remains unclear how the singers who are competent to listen and enjoy music cannot hear when they themselves are out of tune.

As suggested earlier, teachers have to be adaptable in their teaching methods. For example, the teacher will be able to influence the physical posture of the pupil who starts early enough. However, an adult may well have developed long-standing physical habits that are difficult to correct.⁵⁴ One must not necessarily assume that because a singing voice has never been used it will be fresher and last longer than a voice that has been used since childhood. Muscles and tissue age whether used or not. Longevity of the singing voice is rather more dependent upon efficiency and regularity of use.⁵⁵

According to some schools of thought, by the age of thirty, one is too old to begin to learn to sing. In my experience, however, training voices in their sixties and seventies has been successful. The voice should, if carefully used, be able to maintain most of its power and clarity until advanced old age. Psychologically the chief object is to overcome the feeling that they are 'past it'. Isobel Baillie was singing publicly until a month or so before her death in her mid-eighties.

⁵⁴ See further, Thurman, Leon and Graham Welch, *bodymind & voice: foundations of voice education*, III, Collegeville, Minnesota; Iowa City and London: The Voice Care Network, National Center for Voice and Speech, Fairview Voice Center, Centre for Advanced Studies in Music Education, 1997, rev., 2000, chs. 2,3,4,5.

⁵⁵ See further, Chapter 3 below.

Returning to the plight of the non-singer, designated tone-deaf. When singing lessons begin, patience is necessary. The rate of progress varies from individual to individual. Non-singing children will normally learn more quickly than adults, for they are often less inhibited than their adult counterparts and have younger muscles. The teaching situation needs to be one in which encouragement and praise are given generously in order to build the student's confidence, particularly when dealing with the adult pupil. Teachers must be extremely sensitive to these budding vocalists. The voice is inextricably interwoven with the personality, and all students require training that is as skilful as it is compassionate.

In this chapter it has been argued that psychology, often mingled with ethical considerations, makes a significant general contribution to vocal pedagogy and, more particularly, that singing teachers can only benefit from a strong foundation in the developmental psychology of music, albeit this multi-faceted discipline is relatively young. Cognitive, social, behavioural and affective psychologies cannot be applied in isolation from each other in music education. Since people learn in different ways provision made in teaching styles must be appropriate for individuals at whatever stage they are in their development. The responsibility of the teacher lies in the selection of the methods necessary for the progress of the student of whatever age or ability. Much more of this developmental psychology and diagnosis would be welcome in the teacher training situation and more links between theory and practice are desirable.

From the epigram 'teachers are born not made' comes the reasoning of teachers who think that knowledge of psychology is unnecessary. No doubt there are teachers who appear to have taught successfully without having studied psychology, but there are many more who have been handicapped by a lack of psychological knowledge. Even the successful teachers would have gained from the information - their failures are seldom mentioned. Tampering with what is not well understood could result in psychological damage. Hollien says,

...the voice teacher must be a reasonably good practicing psychologist with both technical knowledge about personality and insightful perspectives relative to the elements that underlie specific behavior. Indeed, it is not enough to be well meaning in this regard as behavior modification is not always a positive and maturing

force; it can be dangerous if mishandled. Thus, the voice teacher must have specific training in applied psychology; it is also helpful to be intuitive and insightful about personality, learning, and deviant behavior (1993, 197-198).

And Harris and Crozier say,

Perhaps the most demanding and stimulating challenge faced by the teacher is to draw from the pupil that subtle ability to communicate something of their innermost self through the medium of musical performance. Without developing musical 'personality', performances will remain uninspired and the central message of the music will not be communicated (2000, 4).

Of course, inspiring performances also depend upon a firm technical foundation. Into the establishment of such a foundation we must now enquire.

3

SCIENCE AND VOCAL PEDAGOGY

'Why should a successful singing teacher bother about the functioning of the voice?' asks Johan Sundberg (1998, 11). He goes on to suggest that a reliable terminology has been developed which achieves the correct results, so what does science have to offer the singing teacher? - 'My view is that science does not have very much to offer... ' (1998, 11). He does, however, agree that some teachers may be curious about the scientific aspect of vocalization, and others may want to discover a common terminology that will help them to relate with other singing teachers and with other professionals, for example, ear, nose and throat consultants.

In the Never-never-land of optimal vocal health many speech language therapists, in their professional meetings, are desperately asking, 'Where are the singing teachers who are fully equipped to continue our work with singers who have sick and inefficiently functioning voices? Few of us are trained to develop the singing voice of the ultimate vocal athlete'.

Thomas Hemsley states that he is trying to redress the balance of the advent of the 'how' of vocal science against the 'why' and 'what' (feelings, intuition, and imagination) (1998, Foreword). Of course, any competent singing teacher with a firmly grounded scientifically based pedagogy is the very last person to decry imagination. Artistry and imagination thrive in concert with a voice which functions efficiently and healthily. Hemsley goes on to say that the basic principles within the classical European tradition are 'rather few and very simple' and mentions the 'open throat' and the thumb's width 'fixed jaw' when writing about the achievement of clear diction, both of which are vocally abusive in their creation of tension in larynx and pharynx (ibid., 1998, 86).

Many singing teachers avoid anatomy and physiology. Even the pioneering British laryngologist Norman Punt (1979) sympathizes with H. Plunket Greene who recommends avoidance of the 'anatomical jargon man' because knowledge of anatomy and physiology will only 'worry him into senseless solicitude about organs whose movements are mainly automatic' (1921, 6). I would disagree - the movement of organs should be automatic, but owing to bad habits or ill-informed teaching, they frequently are not functioning either automatically or healthily. Accordingly, the singing teacher needs to know what is going on if *positive* corrective action is to be taken. Ralph Appelman says,

Vocal pedagogy cannot survive as an independent educational entity if the physiological and physical facts, which compromise its core, remain subjects of sciolism (superficial knowledge). Researchers must constantly interpret these scientific facts so that they might become realistic pedagogical tools that may be employed by future teachers of voice. (1987, 5).

Many voice teachers complain that scientists assume that all voice teachers understand the principles of physics and mathematics relevant to current scientific thinking. They very often do not, and have been heard to ask, at voice conferences, if the scientist presenting the paper can explain so that they understand, as most of what is said sounds like a foreign language. On the other hand, some teachers feel too embarrassed to seek aid of this kind. However, it must be said, in fairness to medical scientists, that an introductory programme is often arranged at the beginning of a conference for those who feel insecure in their knowledge of anatomy and physiology. And, of course, there is the problem of scientific jargon and vocabulary. Many scientists will take time to listen to what teachers have to say, but others dismiss them as not qualified to comment. When one hears a singing teacher discussing the 'larynx' (sic) with a medical person one can understand why scientists come to that conclusion. Similarly scientists often find it very difficult to understand the subjective descriptions of technique, with their weird and wonderful language, in which some teachers indulge. Some wonder that physicians who have no singing experience have dismissed their singer patient's vocal problem as insignificant.

Miller writes:

There is a body of information that ought to be drawn on by anyone who claims to teach anything to anybody. No one can know it all, but we must be willing to modify what we do know as information expands. Demythologizing the language of vocal pedagogy is part of that process. (cited in Sataloff, 1997, 734).

Some teachers even have a fear that science will take over, defensively declaring that science has no place in art. They may even be so arrogant as to say that they know all there is to know about the singing voice already. The truth is, however, that science can confirm what the teacher sees and hears. For example, some students have difficulty in hearing where they are not able to understand the teacher's instruction and visual reproduction can help to accelerate their understanding. The teacher can then build a mental database from what they see and endeavour to find ways to deal with a technical problem.

From experience I find it vital to know something about the 'how' and 'why' of vocal function. How else can the teacher objectively discriminate between what is, and what is not, functioning healthily and efficiently in the singing voice?

Anatomy and physiology

It is important that voice teachers understand the physical and physiological bases of the singing instrument and the repercussions from lack of knowledge and incorrect application. Hollien, states that: 'there is no doubt that the voice teacher has to learn a lot of things [about] a lot of areas' ¹ (1993, 200).

Posture

'Posture determines the alignment and balance of the body, and good bodily alignment is the beginning of efficient breathing and fundamental to healthy singing' (Bunch, 1995, 24). It is rare to see someone with proper physical poise.

Young children, adolescents, and adults for that matter, tend to blend into the slouching habits of the general population. Singing teachers have to point out these bad habits and encourage their correction. This task of changing habits, possibly acquired over many years, is formidable. As F. M. Alexander has stated: '... my teaching experience has taught me that when a wrong habitual use has been cultivated in a purpose, its influence in the early stages of the lessons is practically irresistible' (1941, 35). In attempting to help students deal with wrong habitual use singing teachers would do well to remember their studies in psychology.² Wrong habitual use is not only found in postural problems, but in many aspects of singing. Good posture can improve health, self-image and performance. Alexander also says

...that the most valuable knowledge we can possess is that of the use and functioning of the self, and of the means whereby the human individual may progressively raise the standard of his health and general well-being (ibid., 20).

By good posture is meant the achievement of balance and poise. Everyday tasks such as standing, walking and sitting can then be performed without unnecessary effort or obvious increase in muscular activity.³ In 1737 Nivelon⁴ looking back to the precepts of the dancing master De Lauze in 1623, who stressed great importance on the position of the head for elegance in deportment, wrote:

The Head being the principle part of the human Figure, must be first considered, because it entirely governs all the Rest...[the back] straight and light, [assists the] motion of the Hips [they in turn affect the knees and feet]...a Person whose Head is rightly placed, is capable of Standing, Walking, Dancing, or performing any genteel Exercise in a graceful, easy and becoming Manner' (1737, n.p.n).

¹ See further, Zemlin, Willard R., *Speech and Hearing Science*, Englewood Cliffs, NJ: Prentice Hall, 3rd ed., 1988.

² See further, Chapter 2.

³ See further, Alcantara, Pedro de, *Indirect Procedures: A Musician's Guide to the Alexander Technique*, Oxford: Clarendon Press, 1997.

⁴ Nivelon, F., *The Rudiments of Genteel Behaviour*, London, 1737 cited in Joan Wildblood, *The Polite World*, Oxford University Press, 1965, reprinted by Davis Pointer, 1979.

Among other things, when the head is correctly poised and balanced on the top of the spine, the extrinsic and intrinsic muscles of the larynx are released and the breathing mechanism functions more freely.

Good posture is not a static or fixed position, rather it is an active stillness or a physically quiet attitude. A feeling of lightness and ease of movement and an 'up' uplifted feeling is present when there is balance and poise. The energy level is high and we are ready for action. In poor posture, although it may feel comfortable (the security of habit), there is an imbalance of muscular activity, which may result in, for example, back problems. The feeling is one of heaviness and is, in fact, a pulling down.⁵

The body is correctly aligned when a plumb line suspended at the side of a person falls from the top of the head through the centre of the ear, the middle of the point of the shoulder, the highest point on the hipbone, the knees, and just in front of the ankle.⁶ Some technical problems of the singer may disappear when the body is efficiently aligned and used well. Axial alignment of the body enables singers to coordinate muscular activity, particularly of the torso, to assist in managing the breath for singing. Reference may be made here to Chapter 1 and the influence of the historic 'noble' posture.

A singer must be able to move freely. Performances may require singers to bend, dance, twist, crawl, sit lie down or stand quietly without movement, while singing throughout most of the vocal range. Tension in any part of the body should not be apparent. Veins, arteries and muscles of the neck should not protrude in an alarming way. Shoulders should not rise and fall when breathing. But energy, vitality and dynamic presence are essential. The objective is to balance being relaxed against being alert and ready for action. Total relaxation would put the singer in a prone position and no sound would emerge.

Manuel Garcia II advocated the 'noble' posture. His father Manuel Garcia *père* suggested this in the early nineteenth century and it was maintained by the

⁵ See further, Bosanquet, R. Caroline, 'The Alexander Principle and its Importance to Music Education', *British Journal of Music Education* Vol. 4, no. 3, 1987, 229-242; Rosenthal, Eleanor, 'The Alexander Technique: What It Is And How It Works', *American Music Teacher*, XXXIX, no. 2, October/November, 1989, 24-27, 57, and Boyd, James, 'Embracing Alexander', *Communicating Voice*, Vol. 1, no.3 - Errata, June 2001, npn.

⁶ See illustration, Appendix 4, no. 1.

members of the Lamperti school. It is vital to establish and maintain this posture for *appoggio* technique. Garcia asked the student to place the hands in a crossed position, palms outward, at the lower back at the bottom of the rib cage. This brings the pectorals into a proper relationship with the clavicle, sternum and rib cage. The muscles of the lower abdominal wall are then free to move outward on inhalation. It is a practise technique only, how it feels should be monitored until the 'noble' posture becomes habitual.⁷

The following suggestions have been shown to improve a singer's posture, and are here phrased as if to a student:

1. Consider training in Alexander Technique (a re-education of body use), the ideal way to improve posture. It is necessary to be taught by a qualified teacher.
2. Observe yourself in various situations. As you walk by shop windows, observe whether or not you are walking tall or looking slouched, whether you appear to be leaning forward or backward. How do you sit down, and how do you rise from sitting?
3. Make use of mirrors, arranged so that there are full-length side and front views. Watch as you talk or sing to the mirror. What happens as you begin? Do you look poised, balanced, and full of energy and joy? Does your reflection suggest presence and charisma? Or, does your head pull down, tilt to one side, pull back? Do you raise your chin or thrust it forward? Do you frown or raise your eyebrows? Does your chest collapse? Do you breathe noisily? Do your shoulders rise and fall? Is your abdomen tight? Are your knees released? Is your weight on one leg only? Would you pay money to watch this vocalist sing?
4. Master the traditional 'noble' posture of the historic international school of singing.⁸

⁷ See further, Macdonald, Glynn, 'Alexander Technique and the Singing Voice', *Performing Arts Medicine News*, III no. 2, Summer, 1995, 26-28.

5. Understand that singing is a joyous, exhilarating activity. Paradoxically, it is joyous to communicate even sombre emotions effectively. Let this joy manifest itself inwardly and outwardly. The feeling of lightness resulting from good posture encourages this joyous energetic approach; it is in combination with poise, balance, and enthusiasm. Endeavour to cultivate the 'smiling with the eyes' of Alexander Technique. This releases facial tension, which, in turn, releases tension inside the mouth and pharynx. As the muscles release, the soft palate rises, the tongue relaxes and many other positive features are brought into play. How does one 'smile' with the eyes?

a) Ideally, by cultivating a sense of 'feeling good' and the sense of lightness mentioned previously.

b) But we all have 'off-days' so sometimes we have to pretend.

(i) Imagine that someone has just given you an enormous amount of money.

'Ah!!' you may say, and the face and eyes light up.

(ii) Imagine yourself in a pleasant situation that you enjoy being in - it may be relaxing on a sunny beach or in a country meadow - there are endless examples.

(c) Traditionally, the same effect was achieved by asking students to imagine that they were inhaling the scent of a beautiful, fragrant rose.

An inane grin on the face is not demanded, although some singers do take energy and joy to extremes, resulting in flashing eyes, raised eyebrows, facial contortions of every description, and grotesque mouth openings. These extremes result in muscular tension and distorted sound, not to mention possible embarrassment or hilarity among members of the audience. And, of course, performers may have to sing serious and sad music, but the positive, 'uplifted' feeling has still to be present to allow for dynamic, vibrant, energized sound.

The energizer or breathing mechanism

Bearing in mind that the whole body is involved in singing, we can say that the vocal organ is made up of three parts: the energizer, the vibrators and the

⁸ See further, Chapter 1 above and 4 below.

resonators. The energizer consists of the breathing mechanism; the vibrators are the vocal folds; the resonators are the cavities of the vocal tract.

It is almost certainly the case that breathing is one of the most controversial subjects in vocal pedagogy. The following quotations will illustrate some of the diversity of opinion on the subject, and will pave the way for a view of the matter which seems most fully to accord with human anatomy and physiology. Of the five quotations, the first two are perfectly acceptable, while the last three leave much to be desired.

First, the distinguished voice teacher Giovanni Battista Lamperti (1830-1910) summed matters up when he said: 'The moment you have energy of breath sufficient for the phrase, re-adjustable for all details and all pitches in the phrase, yet continuous from start to finish, you can sing' (Brown, W. E., 1931, 64). Secondly, in Luisa Tetrazzini's opinion,

A singer must be able to rely on his breath, just as he relies upon the solidity of the ground beneath his feet.

A shaky, uncontrolled breath is like a rickety foundation on which nothing can be built, and until that foundation has been strengthened the would-be singer need expect no satisfactory results (1909, 11).

Thirdly, Caruso said,

To take a full breath properly, the chest must be raised at the same moment the abdomen sinks in...The diaphragm is really like a pair of bellows and serves exactly the same purpose (ibid, 53).

Fourthly, Pavarotti's contribution to the breathing debate describes the sensation he feels when taking a breath,

The sensation is very simple. I don't know how you are going to describe this... but you take a breath and stay in the position as when you are in the bathroom...and you keep this position until the phrase is finished. You'll have to explain this, perhaps...with other words...You must push, like a woman in labor, giving birth...it is the same thing. When you push like that, the diaphragm comes up. (Hines, 1988, 220).

Fifthly, even as late as 1996 the renowned pioneer in voice therapy, Oren Brown was still advocating the expression 'pinching a penny between the buttocks' (1996, 22) in order to firm up the lower abdominal area to create a 'firm foundation for the breathing action which takes place above it' (ibid, 22). With these examples in mind, let us now approach breathing in what we take to be the most appropriate way.

Because we all do it we are apt to take breathing for granted. But there is breathing to sustain life; breathing for speech; and breathing for a variety of activities, including singing:

1. Normal quiet breathing without phonation (vocal sound) consists of an inhalatory and expiratory breath cycle of about four seconds; approximately one second for inhalation and three seconds for exhalation.
2. In speech, the breath cycle may, frequently, need to be lengthened. Inhalation and exhalation will be determined by linguistics, and may be irregular.
3. Breathing for singing is more sophisticated. Sung phrases are often long, and at high frequency (pitch) levels. It is necessary to make adjustments to the normal breathing cycle over and above those needed for speech. In singing the expiratory phase is prolonged.

Hence specialist training is necessary. A major part of voice teaching concerns the co-ordination of breath and laryngeal action. Not all teachers of singing agree on how this should be attempted. Some methods of breath management ('support') oppose each other, while others ignore the teaching of breath management completely, or place it very low down on the agenda. For example, 'I do not think that breathing is as important as we have been led to believe in traditional singing training' (Kayes, 2000, 1). This is very different from Lamperti's view (see above). And Kayes contradicts herself later, 'For good singing, you need airflow (without breath you cannot get vibrations) ... In addition you will need a support system for your airflow' (ibid., 5). What is the poor student to believe? Perhaps this quotation

discovered by Freed might lighten the gloom: 'Abdominal breathing better called "abominable," or, 'Lungs are empty sacks into which the air drops like a weight; fill bottom first' (2000, 9).

Whereas a comparison may be made of the understanding of the breathing mechanism in earlier history with Chapter 1 of this study, the basic functioning of the breathing apparatus should be understood.⁹ The description results from contemporary scientific study and seems to be accepted as the norm. For normal living we inhale and exhale to move oxygen into the lungs and remove carbon dioxide from them.¹⁰

Most of the important structures of the respiratory apparatus are housed in the trunk or torso. The torso is divided into two cavities (upper and lower) by a dome-shaped partition called the diaphragm. The diaphragm is attached posteriorly to the spine, and anteriorly to the lower borders of the ribs and the lowermost cartilage of the sternum. The upper cavity, the thorax or chest, contains the pulmonary system (heart, respiratory airways and lungs). The lower cavity, which is the abdomen, contains much of the digestive system. Both the thorax and abdomen participate in respiratory function.¹¹

The thorax is like a barrel-shaped cage made up of bone and cartilage. At the back of the torso is the vertebral column or backbone consisting of thirty-four irregularly shaped vertebrae. The top seven vertebrae are the cervical (neck); the next lower twelve, thoracic (chest) and the remaining three lower groups of five, the lumbar, sacral and coccygeal (abdominal). Attached to the thoracic vertebrae are the ribs: twelve flat arch-shaped bones on each side of the body. At the front most of the ribs attach by cartilage to a long flat bone, the sternum (breastbone). Usually the two lowest ribs (floating) are not attached to the front.

⁹ Anatomical and physiological information has been gleaned from various sources including: Perkins, William H., and Raymond D. Kent, *Functional Anatomy of Speech, Language and Hearing*, Austin: Pro-Ed, 1968; Minifie, Fred D., Thomas J. Hixon, and Frederick Williams eds., *Normal Aspects of Speech, Hearing, and Language*, Englewood Cliffs, NJ: Prentice-Hall, 1973; Brodnitz, Friedrich, S., *Keep Your Voice Healthy*, Boston: College Hill, 1988; Zemlin, Willard R., *Speech and Hearing Science*, Englewood Cliffs NJ: Prentice Hall, 3rd edn., 1988; Sataloff, Robert T., ed., *Professional Voice: the science and art of clinical care*, (1991), San Diego: Singular, 2nd ed., 1997.

¹⁰ See further, Sundberg, Johan, 'Consistency of Inhalatory Breathing Patterns in Professional Operatic Singers', *Journal of Voice*, IV no. 3, September 2001, 373-383.

¹¹ See illustration, Appendix 4, no. 2.

At the top of the barrel-shaped cage is the pectoral girdle (shoulder girdle), the front of this being formed by the two clavicles (collar bones). The clavicles run from the upper sternum to the scapulae (shoulder blades) at the back of the thorax and complete the thoracic skeleton.

The vertical walls and spaces between the ribs are made up of muscular and non-muscular tissue. These muscular tissues are especially important in respiratory function, as is the diaphragm, a sheet of muscle which doubles as the convex floor of the thorax and the concave roof of the abdomen.

At the back of the abdominal cavity is the lower portion of the vertebral column with two large irregular shaped coxal bones (hip bones) at the base, which form the pelvic girdle (bony pelvis). The muscles of the abdominal wall are large and powerful and together with the muscles of the thorax are important in respiration.¹²

The main features of the pulmonary system are the respiratory tract (airways) and the lungs (organs of respiration). The respiratory tract consists of the cavities of the nose, mouth and throat (upper airways), the larynx functioning as an airway valve. The lower airways are the passages below the larynx.

Immediately below the larynx, in the thoracic cavity, is the trachea (windpipe). The lower end of the trachea divides into two smaller tubes, the left and right bronchi. Each of these bronchi divides many times culminating in very tiny alveolar air sacs where oxygen and carbon dioxide are exchanged during the respiratory process.

The lungs, in which the bronchi and alveoli are housed, are cone-shaped, spongy textured and encased in thin pleural membranes. Both lungs rest on the upper surface of the diaphragm, extend upwards, one on each side and almost fill the thoracic cavity. The thorax and lungs normally operate together as a unit.¹³

In normal breathing the air is inhaled through the nose or mouth and goes on its journey passing through the larynx and into the trachea. It enters the lungs via the various bronchi. To allow this to happen the rib cage expands laterally (the bucket handle movement) and with an anterior-posterior expansion (the pump

¹² See illustrations, Appendix 4, nos. 3 and 4.

¹³ See illustration, Appendix 4, no. 5.

handle movement) and the diaphragm contracts and descends, flattening and pulling the elastic lung tissue with it. This increases the dimension of the rib cage resulting in negative pressure in the lungs; therefore the air is let in. The abdomen protrudes to escape the downward pressure of the diaphragm. On exhalation the air flows out of the lungs, into the trachea, passing through the larynx and out through the mouth or nose as the diaphragm ascends and the abdomen muscles contract thus encouraging this upward return.¹⁴ As has been already pointed out, good posture is essential to allow this function to occur efficiently.

It is important to understand that air does not have to be pulled into the lungs; air flows from regions of higher pressure to regions of lower pressure. Breathing is a cyclical activity (inspiration, expiration, inspiration). On inspiration the size of the thorax is enlarged thus decreasing air pressure in the lungs and the airflows in. Conversely, on expiration air flows out of the lungs when the air pressure inside the lungs is greater than atmospheric pressure. This is accomplished at different times by both muscular and non-muscular forces. There is no need for complicated breathing techniques that are based on conscious, even noisy efforts to fill the lungs - the air simply arrives there. As Ingo Titze puts it,

The voice is *powered* by the air stream moving upwards from the lungs. It brushes past the vocal folds, flaps of tissue that vibrate to produce the pressure waves that our ears pick up as sound (1994, 38).

In singing long phrases exhalation has to be delayed by controlling the airflow. This demands co-ordination of the muscles of the torso. According to the historic international school of singing this is defined as *la lotta vocale* (the vocal contest).¹⁵ This is a classical approach to breath management; a particular method of managing the breath in which the act of inspiration resists the act of expiration. Sung phonation (sound) can be lengthened by ten to sixteen seconds, followed by silent breath renewal. The upward movement of the diaphragm and the inward movement of the rib cage are delayed during *la lotta vocale*.

¹⁴ See illustrations, Appendix 4, nos. 6 and 7.

¹⁵ See further, Chapter 1 above and Chapter 4 below.

In the breath cycle the muscles of the torso, the external intercostal muscles and the intercartilaginous intercostal muscles raise the ribs and the interosseus internal intercostals depress the ribs. Their effective actions depend upon good posture that gives balance and poise, and also encourages a relatively high sternum (traditionally the 'noble posture' - see Chapter 1). The postural function of the sternum, which has the first two ribs attached to its upper portion, determines the extent of costal (rib cage) expansion and diaphragmatic movement. If the sternum is lowered during the breathing cycle the muscle relationships are different and function less efficiently - hence the usefulness of the study of the Alexander Technique, particularly here with regard to posture.¹⁶

The abdominal muscles of the lower torso, although not organs of respiration, play an important part. Together with the postural muscles of the upper torso, they delay the inward collapse of the ribcage and ascent of the diaphragm, thereby preventing loss of air.

Some pitfalls to avoid

In the light of experience derived from observation in a variety of voice studios, and from attendance at numerous vocal workshops and masterclasses, I am able to caution against inadequate instruction in the matter of breath management. This takes various forms, as follows:

1. Incorrect information about physiological functioning, which may include:

- (a) Demands made on the musculature, which are impossible to accomplish, for example; 'fill the diaphragm with air'; the diaphragm ascends/ descends for high notes and ascends/descends for low notes;
- (b) Inaccurate location of the diaphragm, for example, among others, the 'spare tyre' theory, teachers here instruct students to lie on the floor with telephone directories balanced on the abdomen, pushing the books up with abdominal muscles in an attempt to strengthen the diaphragm;
- (c) The instruction, 'breathe from the diaphragm' - the diaphragm cannot be controlled locally; however, it must be said in defence of the old adage, that

¹⁶ For information about *appoggio* technique see Chapter 4 below.

muscles which control the action of the diaphragm can be trained, but directly controlling airflow with the diaphragm is not possible.

- (d) The instruction, 'breathe like a baby' - we no longer inhabit babies' bodies;
- (e) The statement that because breathing for singing is natural breathing, training in breath management is unnecessary;
- (f) The ambiguous statement that breathing for singing is the *same* as breathing for speech - the mechanism is the same, but the use to which it is put differs significantly.

2. Breathing techniques which are based on:

- (a) Noisy or conscious efforts to fill the lungs with air - breath is not pulled into the lungs, it arrives there silently;
- (b) The 'pear-shape-up' approach or the 'up-and-in' approach, which encourage a too high rib cage and a 'pumping of air' from the abdomen;
- (c) The 'pear-shape-down' approach or the 'down-and-out' approach, where pressure is shared between the lower abdomen, buttocks and colon;
- (d) Upper chest breathing with a consequent rising of the shoulders and tension in the laryngeal area;
- (e) Lower back breathing, which encourages a rounding of the shoulders and collapse of the rib cage;
- (f) Extreme relaxation - singing is an athletic activity, singers should not be under-energized, and a balance between excitement and relaxation should be sought.

3. The assumption that all bodies are the same:

- (a) Some singers have short rib cages with a greater distance between the lowest ribs and the top of the hipbone, while others have long rib cages and less space between the ribs and hipbone. These dissimilarities in body shape account for the visually different degrees of muscular expansion as between one singer and the next.

(b) Some singers whose posture appears to be slouched may be standing as well as they can given their physical characteristics, while others may give the appearance of standing well but, in fact, have a lowered sternum. Appearances can be deceptive.

4. Subjective imagery that, apart from its use in stimulating the imagination for purposes of interpretation, usually obscures more than it reveals where technique is concerned.

The singing teacher's most important task is systematically to teach freedom and efficiency of function in the singing voice, which can then be put to artistic use. In this connection the achievement of good breath management in order to ensure that the vibrating larynx and airflow are in harmony is crucial to artistic performance.

The vibrators.

The vocal folds generate the sound as they vibrate laterally by breaking up the airflow from the lungs into a sequence of air pulsations which is actually a buzz-like sound and which contains a full set of harmonic partials. The ever-changing resonating qualities of the throat and mouth influence the accentuation or suppression of the air vibrations. Similarly, the changes in pitch produced by the vocal folds are altered by the changes in tension of the laryngeal musculature. As we shall see, sophisticated co-ordination of the intrinsic and extrinsic musculature of the pharynx, larynx and breathing mechanism is essential for excellent phonation.

The larynx is located at the front of the neck, above the trachea and below the hyoid bone.¹⁷ The fingers can be placed at the mid-line of the neck where there is a prominence with a notch. This is the thyroid notch and denotes approximately the anterior attachment of the vocal folds. Above the thyroid notch is the hyoid bone, which as well as having some laryngeal muscles attached supports the root of the tongue and is commonly called the 'tongue bone' (*zungenbein*) in the German and English school of singing. It is sometimes said that the larynx is suspended

from the hyoid bone (Zemlin, 1988, 101).¹⁸ The larynx has a cartilaginous framework made up of muscles and joints and lined with mucous membranes. Its main function is to act as a valve to protect the lungs from inhaling foreign bodies as in choking; it enables us to cough and aids in defecation and childbirth.

The larynx develops most of its anatomical characteristics by the third month of foetal life. At birth the thyroid cartilage and hyoid bone are attached to each other. The laryngeal skeleton then separates. The slow process of ossification then begins. By two years of age the hyoid bone starts to ossify. During the early twenties the cricoid and thyroid cartilages ossify and in the late thirties the arytenoid cartilages ossify. Most of the entire laryngeal skeleton is ossified by the age of sixty-five. At birth the larynx is high in the neck beginning to descend throughout life. As the larynx descends vocal tract length relationships change and average pitch tends to become lower. Vocal fold length in the infant is 6-8 mm. It increases to 9-13 mm in the female adult and to 15-20 mm in the adult male. Obviously, the dimensions of all laryngeal anatomy increase too.

The larynx houses the vibrators (vocal folds) that are situated at the top of the trachea. Of the cartilaginous framework the most important is the thyroid cartilage that houses the vocal folds. These are situated at the top of the trachea and Paget (1938, 447) compared their appearance with that of bugler's lips, which remains an apt description (updated to trumpeter's lips). They consist of long, smoothly rounded muscle tissue that may be lengthened, shortened, tensed or relaxed, adducted or abducted.¹⁹ The vocal folds are joined together anteriorly by the cricoid cartilage and surrounded by it. The cricoid cartilage is wider and thicker posterolaterally, in appearance like a signet ring and it rocks and tilts on top of the thyroid cartilage. Posteriorly the vocal folds are connected to a pair of cartilages (the arytenoids, supported by the cricoid cartilage) that are activated by muscles, which allow these ends of the folds to move together and apart. The space (glottis) between the folds when abducted, as in inspiration, is roughly triangular with the apex at the front. On expiration without phonation the glottis is narrow. During phonation the edges of the vocal folds are brought together, the air

¹⁷ See illustration, Appendix 4, no. 8.

¹⁸ See illustration, Appendix 4, no. 9.

pressure causes them to vibrate, not only completely but in sections, and we have sound. The cricothyroid muscle lengthens, stretches and tenses the folds, thus changing pitch. The pressure beneath the vocal folds (sub-glottal pressure) must be higher than that in the glottis (supra-glottal pressure) to allow phonation. Then an event occurs which has been compared by some, though not all, scientists with the Bernoulli effect. It can be likened to the action in an hourglass. When the slowly moving sand reaches the restriction in the middle of the hourglass it speeds up through the narrow restriction resulting in a lowering of pressure. In the vocal mechanism this narrowing point is the glottis. When air moves from the lungs and is forced through this smaller space, the lowered pressure has a suction effect. The vocal folds are adducted in this suction. A chain of actions, for example, coordinated muscle activity, follows which assist in the maintaining of vocal fold vibration. On closure of the vocal folds sub-glottal air pressure causes the abduction of the folds and so the cycle continues.²⁰

The puff of pressurized air released through the mouth is one complete vocal vibration cycle. The frequency of these puffs (the number emitted per second) determines the frequency of the sound. For example, 440 puffs of air will sound the pitch 'A'. The sound becomes amplified by the pharyngeal and oral cavity.

The pharynx, as resonator, consists of an irregularly shaped flexible tube, closed at one end, the beginning opening being the nose and mouth. There is some controversy as to whether the nasal cavities resonate or not. The nature of their physical structure with their complex folds suggests there is little space for resonation to take place. Of great importance for the singer are the mucous membranes which line the whole vocal tract and act as lubricants to encourage easy flowing movement in the moveable parts of the tract, particularly the vocal folds (see section on vocal health and hygiene).²¹

¹⁹ See illustration, Appendix 4, no. 10.

²⁰ See illustration, Appendix 4, no. 11.

²¹ See illustration, Appendix 4, no. 8.

Vocal science

This study will not deal with general acoustics, but with acoustical science as it applies specifically to the training of the singing voice.²²

The vocal tract acts as a flexible resonator that converts the sound generated by the vocal folds. It is shaped acoustically according to vocal tract configuration promoted by the articulators: tongue, lips, mouth, jaw, velum and pharynx.

Some sounds with particular frequencies pass through the vocal tract resonator more easily resulting in high amplitude. These resonances are called formants and the resonance frequencies, which are peaks that determine the shape of the acoustic spectrum (spectral envelope) of a vowel, are called formant frequencies. Tones, which have frequencies in between these formant frequencies, have less amplitude.

Formants are extremely important in the production of vocal sound. They determine the quality of vowels and make a major contribution to the individual timbre of the voice. There are four or five important formants in the vocal tract. The two lowest formants govern most of the vocal colour and the third, fourth, and fifth are more indicative of individual voice timbre.

The length of the vocal tract affects all formant frequencies. In the adult male the formant frequencies occur at 500, 1500, 2500... Hz. In a child they are apparent at about 40% higher and in the adult female about 15% higher.

²² See further, Borden, Gloria J., and Katherine S. Harris, *Speech Science Primer*, Baltimore: Williams & Wilkins, 1984; Benade, Arthur H., *Fundamentals of Musical Acoustics*, (1976) 2nd rev. edn., New York: Dover, 1990; Sundberg, Johann, *The Science of Musical Sounds*, San Diego: Academic Press, 1991; Kent, Ray D., and Charles Read, *The Acoustic Analysis of Speech*, San Diego: Singular Publishing, 1992; Fujimura, Osamu and Minoru Hirano, *Vocal Fold Physiology*, San Diego: Singular Publishing, 1995; Howard, David and James Angus, *Acoustics and Psychoacoustics*, Oxford: Faber, 1996; Nair, Garyth, *Voice - Tradition and Technology* San Diego: Singular Publishing 1999; Campbell, Murray, and Clive Greated, *The Musician's Guide to Acoustics*, (1987), Oxford: Oxford University Press, 2001.

How is it that we can hear a singer above an orchestra? There is another aspect of formant frequency that usually appears in resonant singing regardless of the vowel. Vennard called this phenomenon the '2800 factor' (1967, 128). He went on to suggest that this ringing quality of the sound results when the resonators are in tune with the vibrators. In practice this technique is sometimes described as tracking the laryngeally produced vowel by the resonator tube (see following Chapter).

It is now well established that a sound that strikes the listening ear as aesthetically pleasing (in 'classical' singing) is the result of verifiable acoustic and physiologic conditions. Precisely, it is the relationships, adjusted for vowel definition, among the fundamental frequency and the first, second, and third (and at times the fourth and fifth) formants that determine the listener's perception of resonance and the singer's proprioceptive response to the sounds he is making. It is the acoustic energy... exhibited in the 2500-3300 Hz region regardless of the vowel being defined, that sets the resonant singing voice apart from normal speech. This relationship among the levels of acoustic energy (formants) determines the unique beauty of the singing instrument. It explains the traditional "resonance" of the professional singing voice (Miller, 1993, 74).

It is my contention, justified from my experience in schools, voice studios, workshops and master classes, that there does not appear to be a consistent method of training singers to achieve this resonance which is not hazardous. The method of many teachers seems to be 'hit and miss', especially in the case of those whose pedagogical armoury is replete with subjective imagery. More will be said of this in the next chapter. The case for at least basic scientific knowledge of the singing voice is unanswerable. And in *New Scientist* Titze states:

Quantifying the characteristics of an ideal voice should become possible in the sound studio of the future, with fibre-optic viewing systems that can peer deep into the working larynx, synthesizers that can mimic voices and sound frequency analysers that can pinpoint their make-up. Such technology will help dispel some of the mystery and metaphysics that has plagued singers - and their teachers - for so many years (1995, 42).

The use of scientific instrumentation in the singing studio

Although throughout history singing teachers have relied on external observation and skilful listening, which in many cases have produced excellent results, judgements about the singing voice have been subjective. The teacher has had to rely on memory to assess a student's progress. As we have already seen in this study there has been much controversy over teaching methods and what constitutes beautiful sound production, what is 'good' and what is 'bad'. There is now available instrumentation, which can be used for objective assessment of the voice. Much of it can be used in the singing teacher's studio and it certainly should be made available to teachers in conservatories. Teachers and students can then accurately assess vocal performance and progress and be made aware of technical singing difficulties as yet undiscovered. Of course such technology will never substitute for the excellent voice teacher. Even if teachers are not able to use the instrumentation regularly, they should at least be aware of it. Some of this technology can only be used by a medical practitioner but in the case of certain students it may highlight a problem not resolved by the traditional method of teaching.

Many teachers have available audio equipment for recording their students - the better the quality, the more accurate the reproduction of the sound. Cassette recorders can be modified reasonably simply to provide Aural Real-Time feedback, in which singers are able to hear their voices as they sing.²³ For instant visual feedback more and more teachers are adding to the homely mirror, the video recorder, which both teacher and student can view together, linking the visual with the aural in the playback and thereby analysing the performance.

Stroboscovideolaryngoscopy

The flexible fiberoptic laryngoscope, which is inserted painlessly through one nostril, enables the physician to view the larynx. This instrument has a microscopic camera on the end of the tube which has been inserted into the nasal

²³ See further, Nair, Garyth, *Voice-Tradition and Technology*, San Diego: Singular Publishing, 1999, 66-7.

passage and down the back of the throat. When connected to a video camera the doctor, student and teacher are able to watch the position of the palate, pharynx, tongue base, vocal folds and other parts of the larynx as the singer speaks and sings. Sometimes singers will instinctively adjust the vocal mechanism healthily as they are made aware of a functional problem. In some colleges in North America it is mandatory for the beginning student to have this examination before their course of singing study begins so that it can be compared with future examinations in order to discover whether problems have been solved or new ones created. This is also important in cases of litigation made against the teacher by the student. It is also extremely interesting to watch whatever the situation. Vocal fold vibration can be viewed and assessed by the same method explained above.

All of these measures can be useful to singing teachers, particularly if they are attempting to deal with a problem of technique that may be the result of a physical problem.

Phonatory ability

This can be measured easily in the studio with a stopwatch, the student vocalizing on a vowel in medium range. Among other things, lowest and highest pitches (physiological frequency range of phonation), musical frequency range of phonation (lowest and highest musically acceptable notes), limits of vocal registers can be measured by recording with a good quality tape recorder, and then formally and spectrally analysed by computer programme. This allows singing students to link ear and eye analysis. If a computer is unavailable in the studio then the recording can be sent elsewhere for analysis. Ingo Titze is enthusiastic about analytical technology:

Vocologists are encouraged to become familiar with a sound spectrograph. It is an important tool for analysis that can be used not only for research but also for instantaneous feedback (sic) in vocal training and therapy (Titze, 1994, 165).

Aerodynamic measures

Aerodynamic tests reveal lung capacity. Small lung capacity may suggest aerobic exercise is necessary. Worsening of lung capacity during singing may suggest asthma and remedial technical measures should then be taking in the singing lesson to prevent voice abuse. Airflow across the vocal folds will show the extent of glottal efficiency, for example if the singer has an excessive breathy or pressed phonation. A qualified physician will do these tests.

The Respitrace

The respitrac tracks a singer's inhalation, exhalation and breath management. It shows the movement of the abdominal and chest walls during inhalation and exhalation. Thus the machine is invaluable in appraising breathing techniques.

Acoustic analysis

The ear is still the best acoustic analyser, but since it cannot quantify accurate explanations are extremely difficult without the visual aid of a spectrograph. The spectrograph is probably the most used machine in voice analysis. It will measure onset of sound, vocal stability, vibrato, accuracy of pitch, formants (particularly the singer's formant), and *chiaroscuro*.²⁴ Spectral analysis allows singers to 'see' the voice as well as to 'feel' and 'hear' it. It goes without saying that a series of spectrograms will monitor the singer's progress. Computer programmes are now available so that this recording can be undertaken in the studio, singers being able to work on their technique alongside the teacher in the studio, or in the voice laboratory, with the programme to aid satisfactory results.²⁵ The spectrograph provides immediate feedback, valuable because the voice can be heard, acoustically analysed and singers can watch themselves singing at the same time. It is extremely useful for young singers, in particular, to have constant feedback in order to refine their singing and, some would say, expedite a singer's

²⁴ See further, Chapter 4 below.

²⁵ David M. Howard presents an excellent collection of voice analysis programmes on the Internet in his 'Survey of Internet - free and shareware tools for voice analysis', Support for paper

technical progress. Of course, the teacher and student will require the necessary knowledge of setting up the programme, working with it, and reading it. Working with one's own voice is helpful when first learning how to use the spectrogram.

The Vowel Chart and Nasometer

The Vowel Chart measures resonance in a singer's voice compared with the spoken voice. The nasometer measures the amount of nasality in the singing tone, useful in the singing of French texts.

Laryngeal Electromyography (EMG)

This process is administered by a medical practitioner as it is an invasive technique. Laryngeal electromyography (continuous recording of the electrical activity of a muscle by means of electrodes inserted into the muscle fibres displayed on an oscilloscope) is sometimes used for diagnosis of complex laryngeal disorders.

Psychoacoustic Evaluation

Psychoacoustic evaluation, which describes how we perceive sound and acoustics, could be of help in adjudication where so many different subjective opinions, taste, personalities and biases are prevalent (see further Chapter 5). This could possibly lead to improvement in the adjudication of the singer. Sataloff has this to say:

Many researchers have tried to quantify and standardize psychoacoustic evaluation of the voice. Unfortunately, even definitions of such basic terms as hoarseness and breathiness are still controversial. Standardization of psycho acoustic evaluation protocols and interpretation does not exist... Nevertheless, recognizing that the human ear and brain are still our best tools, we try to optimize the validity and usefulness of our psychoacoustic observations (1997, 238).

The Electroglottograph (EGG)

The electroglottograph monitors the efficiency of the closure of the vocal folds by passing a high frequency electric current between electrodes fastened externally at laryngeal level. It is not invasive or painful.

Studio application

As stated above scientific analysis is not a substitute for the competent voice teacher, but is an extra tool of which the teacher may take advantage. All of the instruments working together provide extra insight to the information usually acquired in the teacher's studio. It is quite amazing how the eye reveals details not heard. As shall be enlarged upon in the next chapter, singers learn in three ways: by hearing, seeing and feeling. Singers hear and listen to their teachers and feel the sensations of correct technique, but to see their instrument they need to use scientific apparatus. When the day comes for peer review and standardization of the profession, as in other related professions, more than personal opinion is going to be needed when attempting to quantify beautiful, healthy singing. Objective voice analysis may be helpful here, and much appreciated by those confident in their own singing and teaching ability. Hence the great need for teachers to absorb this material and make use of it when and wherever possible.

Vocal health and hygiene

General health care

On the basis of scientific knowledge acquired the competent singing teacher will be able to offer vocal health guidance to students along the following lines.²⁶

In the first place it may be of help to state the obvious, namely, that the singer's instrument is not on all fours with any other musical instrument. Singers'

²⁶ See further, Brodnitz, Friedrich, S., *Keep Your Voice Healthy*, Boston: College Hill, 1988; Morrison, Murray, and Linda Rammage, *The management of Voice Disorders*, London: Chapman and Hall, 1994; Boone, Daniel, *Is Your Voice Telling on You?* London: Whurr Publishers Ltd., 2nd edn., 1997; Sataloff, Robert T., ed., *Professional Voice: the science and art of clinical care*, (1991), San Diego: Singular, 2nd edn., 1997; Davies, D. Garfield, *Care of the Professional Voice*, Oxford: Oxford University Press, (1998), 1999; Allen, Rose, 'The Effects of

instruments are personally unique; they are with them wherever they are. Unlike an orchestral instrument they cannot be packed safely away at the end of the day, or before a holiday. Orchestral instrumentalists can repair, exchange, and upgrade their instruments. Not so the singer. Voices can never be exchanged or upgraded, hence the need for specific care. They have to function in heat or cold, come rain or shine, with toothache or a bad back, after arguments and quarrels, during career pressures - the list is endless. Singers, and all who deal specifically with voices need constructive information about vocal function, health and hygiene.

Good posture is of fundamental importance, for posture imbalance sets up tensions. Singers would do well to ask themselves whether they have any of these bad habits: pulling the head back and down; pulling the back in; locking the knees; incorrect weight balance (standing with weight on one leg only); leaning forward, backward; throwing the head back while speaking or singing; tightening the abdominal muscles; wearing half-specs which encourage a looking up and over, thus altering head and neck configuration?

Exercise for flexibility and mobility is important for long-term health, benefiting the muscles for breathing, reducing areas of tension, encouraging vocal longevity and helping to counteract some of the effects of ageing on the skeletal framework. Physical activities for the singer that produce flexibility and suppleness are excellent, and preferable to those that encourage the development of specific muscles as in weight-lifting and isometrics.^{27 28} Effective and efficient use of the singing voice is possible into old age provided that supple rib-cage movement can be maintained to aid respiration, that there is good head and neck alignment, and that one sings regularly - at least in the daily practice of warm-up exercises. Regular, purposeful, brisk walking is excellent exercise (did you ever meet a happy jogger?). Mooching around shopping centres and malls does not count! Walking improves breathing, strengthens muscle and bone, improves stamina and is a low

Preventive Vocal Hygiene Education on the Vocal Hygiene Habits and Perceptual Vocal Characteristics of Training Singers', *Journal of Voice*, XIV no. 1, March 2000, 58-71.

²⁷ Pilates is becoming very popular with musicians. It designed to encourage 'suppleness, natural grace, and skill that will be unmistakably reflected in the way you walk, in the way you play, and in the way you work', said by Joseph Pilates and quoted by Barkway, Ann in 'Music and Movement', *Classical Music*, 16 February 2002, 15.

²⁸ See further, Robinson, Lynne, and Gordon Thomson, *Body Control: The Pilates Way*, London: Pan Books, 1997; Ackland, Lesley, *15-Minute Pilates*, London: Thorsons (Harper Collins) 1997.

impact form of aerobics. Swimming is also very good for improving respiration, is completely impact free and therefore may be more suitable for the older or osteoporitic person. It is advisable to check with your GP before beginning an intensive exercise programme.

As well as exercise, adequate, regular rest is essential. Every opportunity should be taken of ensuring sufficient, undisturbed sleep at night (eight hours) and refreshing siestas during the day. Use nose-breathing when at rest. A healthy person should not require sleeping pills. Tiredness resulting from over-full days and long rehearsals is vocally damaging - if the body is tired then the voice is tired.

An ideal weight with a regular, adequate balanced diet should be maintained. There is a vast quantity of published advice available. An excess of dairy products, chips, fried food, chocolate, hot and spicy foods, tomatoes, peanuts, concentrated fruit juices, excessively hot or cold fruit or drink should be avoided. It should be remembered that dairy products and chocolate induce thicker mucous; spicy food aggravates the mucous membranes of the larynx; tomatoes and 100% fruit juices are too acid; peanuts may precipitate a tickling cough. It is well to avoid eating late at night, particularly if one has a tendency to gastric reflux (here gastric stomach acid is regurgitated during lying down and sleep, and coats the laryngeal mucosa causing a burning irritation). Food should be eaten and chewed slowly. If, for whatever reason, a singer decides to abstain from particular foods it is essential that sufficient vitamins and minerals be obtained from other sources. Good oral and dental hygiene is important too.

Sufficient hydration should be monitored by: drinking 1.5 - 2.0 litres of water every day, cutting down on caffeine-loaded tea, coffee and colas, sipping little and often. Water should be drunk each time you eat and available at all times. Sufficient fluid intake ensures adequate internal irrigation. Fluid intake is not delivered directly to the vocal folds but here the internal irrigation system is given a larger reservoir of fluids to deal with.

It is imperative that singers learn how to handle stress. Stress may be physical or psychological or a combination of both. It may result in, among other things: vocal problems, sleeplessness, depression, anxiety or panic attacks. There may be personal or family stress, financial or employment difficulties and/or

physical illness. Emotional stress may create excess muscle tensions that may eventually encourage voice disorders. Measures should be taken to relieve worries and problems. It is well to find time each day, no matter how brief, to relax, maybe through different activities or hobbies. The singer/teacher must be objective and set realistic goals, learning to say 'No' and develop coping strategies for overload situations. There are many ways to help deal with stress: physical exercise, meditation, or prayer; training in stress management; relaxation methods, for example Alexander Technique, Feldencrais method, Autogenics, self-hypnosis, remembering that these techniques must be learnt from a competent teacher.

Smoking is taboo. Cigarettes, cigar and pipe smoking dry the vocal tract. The tars and irritants in smoke often cause redness and oedema (swelling) of the mucosal linings of the air passages. Both smoke and heat from cigarettes are dangerous. The puff from a cigarette that comes in at the lips has, it is said, been measured as being above 100 degrees Celsius (above the boiling point of water), therefore burning is inevitable. Smoking can cause shortness of breath, coughing, throat-clearing, lowering of voice pitch and decrease in voice loudness, and as universal medical research shows has repercussions in many other directions. Secondary smoke also claims victims.

The dangers of recreational drugs such as cocaine, marijuana and heroin, in their various forms and strengths, are legion and will not be dealt with here. Suffice it to say, they should be avoided at all costs.

Alcohol can be damaging to the vocal tract; red wine and spirits are the biggest culprits. How excessive alcohol intake has to be before it affects perception and coordination may be a moot point, but where fine-tuning of the vocal mechanism in performance is vital, the pre-performance drink is better omitted. Certainly alcohol affects mucous production, and may result in a husky or low-pitched voice. A combination of alcohol, cigarette smoke, (including that of other people) and animated conversation carried on above loud background noise, for example at a pre/post performance party, spells vocal suicide.

Environmental hazards

How are we to deal with what are in the main, uncontrollable environmental conditions? Indeed, what are those conditions?

In the atmosphere we find excessive pollution and dehydrating agents: pollens, dusts, moulds, pets, plants, chalk, felt-tip pen fumes, carpets, household dust, mites and their droppings, stage and backstage dust - dusty curtains, backstage canvasses, and dirty dressing rooms. Outside dust is blown into the home or office from passing cars, subways, busy streets, construction projects, power mowers and leaf blowers. There is smoke: from fireplaces and barbeques, cigarette smoke (as stated above secondary smoke is hazardous); fog, sprays - hair, perfume, cleaning, and paint - to mention just a few; air-conditioning, vehicle exhaust fumes, industrial emissions, paint fumes from home decorating, chlorine and some solvent-based glues. We find a hot, dry atmosphere caused by central heating and/or air-conditioning in geographical regions where the relative humidity is low, and in air-travel where the relative humidity is even lower, about 5%-10% (a healthy humidity level is around 30%-50%).

What can be done about all this? We can dampen down dusty areas where possible. The various inhaled fumes mentioned above cause the mucous membranes, particularly of the nose and throat, to become dry or inflamed, so drink lots of non-caffeine or non-alcoholic drinks - approximately 2.0 litres each day - urine should be almost the colour of tap water. The eminent American laryngologist and promoter of interdisciplinary education among physicians and voice teachers, Van L. Lawrence, had a favourite maxim, 'The catch phrase is, of course, "pee pale."... Add to that catch phrase another one from Dr. Leon Thurman in Minneapolis: "sing wet" and you should be right on' (1991, 154). It is advisable to minimize talking in aircraft, to hydrate well before and during flights, and to avoid iced drinks, alcohol, and salted nuts (salt dehydrates). A moist environment in hotel rooms can be achieved by running hot water in the shower. In the home or work environment, since central heating and air-conditioning dries out mucous membranes, the air should be humidified, if possible, by placing bowls of water by radiators, and well-watered houseplants may be introduced. Adequate ventilation is important. Large-scale statistical research shows no appreciable

difference in the number of colds caught by those who sleep with windows open as opposed to those who sleep with them closed. Medical opinion is more inclined to suggest that better hygiene would reduce the number of colds, as colds are said to be contagious. Steam inhalers are useful but must be kept meticulously clean to avoid dangers of infection.

All around us is background noise: office equipment, factory machinery, aircraft (the average in-flight noise level is approximately 90-95 decibels - a very noisy environment, in which we have to raise our voices to be understood), buses, railway carriage noise, restaurants, stadiums, telephones, noisy classrooms and public places. We tend to compete with this noise by raising pitch, shouting and yelling. We often speak for long periods in such noisy conditions as are found, for example, in classroom activities, swimming pools, pubs, clubs, discos, parties, television, or when listening to a Walkman at a volume usually too high for us to speak at a comfortable level (loss of hearing will not be commented on in this study). This all leads to vocal strain.

What can we do under these conditions? The following guidelines might be offered to a student:

Try to remove or reduce unnecessary noise when and wherever possible. Recognize the relationship between healthy singing and the appropriate use of the speaking voice - it is often the speaking voice that causes the problem for singers. Use controlled, precise delivery when you speak. Face people or come closer to them - people often lip-read when they listen. Use volume and clarity to match the distance between you and the listener. Try to bring individuals or groups to you, or move closer to them and learn vocal projection techniques rather than calling out. Avoid prolonged talking out of doors - for example yelling at a football match. Find non-vocal ways, to train/discipline, for example, pets and children. Don't fight noise and acoustics, use visual hand signals if teaching large numbers of students - stamp foot, pound piano, gesture, raise hand, clap, ring a bell, whistle, blow a horn. Wait until students, audience, or singers are quiet and attentive before speaking or singing.

Choirs are among the noisiest of environments. Enthusiastic choral directors often get singers to sing much more loudly than they would sing in their

own living rooms at home. Young professional leaders of sections often feel that it is part of their responsibility to lead the section by singing louder than the section. Sataloff advises that you should

sing as if you were giving a voice lesson to the person standing on either side of you, and as if there is a microphone immediately in front of you that is recording your choral singing for your voice teacher (hearsay).

The choral sound will improve too.

We tend to speak or sing more loudly in the presence of background noise. This is the so-called 'Lombard Effect'. When singing in choirs, singers often cannot hear their own voice and therefore sing louder. On such occasions the memory of our singing teacher's disapproving look may act as a dissuasive. It is not necessary to be able to hear your own voice above that of your neighbour. At parties we shout. Under these circumstances we are rarely aware of good vocal technique. After an evening of performing, when tired, such abuse can wreak havoc on a voice. Singers, who perform more regularly, tend to be more aware of post-performance voice conservation than others. However, all singers should protect their voice at all times, 'as if the greatest opportunity were to come unexpectedly tomorrow.' (Sataloff, hearsay)

If singers are constantly aware of their atmospheric, auditory and vocal environments, it will eventually become second nature to take precautionary protective measures. Their reward will be the minimizing or avoidance of many actual or potential vocal problems.

Ailments, medications, and early warning signs.

Singers have a tendency when under pressure of performance or feeling under the weather to turn to medication for assistance.²⁹ For most other careers and professions, the use of medication does not pose the same problems as it does for the singer. Singing involves the use of the whole body, which must be in tip-top

²⁹ See further, Lovetri, Jeanette, "'Alternative Medical Therapy' Use Among Singers: Prevalence and Implications for the Medical Care of the Singer", *Journal of Voice*, XIV no. 3, March 2000, 398-409.

condition both physically and mentally. Drugs act by enhancing, inhibiting, or imitating a normal function. Virtually all medications can cause many unwanted effects in the body, particularly the larynx. Taking a drug for one specific purpose does not mean that its activity will be restricted to that purpose only. Medications are dispersed throughout the whole body and can have surprising effects. For example, if certain antihistamines are taken to dry up a runny cold, some individuals may find that although they have some relief from the cold, they also have blurred vision or a dry mouth and throat and feel sleepy - conditions which singers can well do without. Vocal problems are sometimes found to be extremely puzzling and to this end vocal pharmacology, with particular reference to singers and singing students, has been introduced as a discipline at Drew University in the United States.³⁰

Problems with the voice may be organic or functional; although very many are caused by hyper function and/or abuse. Here follows a list of the most common pathologies: Laryngitis - a reddening and oedema of the larynx; Reineke's oedema - oedema in Reinike's space of the larynx; vocal fold polyps; contact ulcers; tumours, and recurrent laryngeal nerve paralysis. Accidents apart, functional disorders are always generated by vocal abuse.

1. Common infections

(a) Upper respiratory tract infection without laryngitis and laryngitis without serious damage.

The main concern for the singer is to dry up the nasal drainage. As mentioned earlier in the chapter singers may get relief from antihistamines but the vocal folds must be kept moist in order to function easily. Singers also frequently use decongestants. They shrink the swollen mucous membranes of the vocal tract which may have lowered the pitch of the voice and/or made it sound hoarse or breathy, and may offer some advantage when used appropriately and in conjunction with periods of vocal rest. However, decongestants are related chemically to

³⁰ See further, Nair Garyth, Vocal Pharmacology: 'Introducing the Subject at Drew University', *Journal of Singing*, LV, no.3, January/February 1999, 55-63

adrenaline and, therefore, can produce increased heart rate and blood pressure, possibly a slight tremor in the voice, hyperirritability, and insomnia.

Throat lozenges and sprays have their dangers too. These, as with other OTC (over the counter) drugs are designed to alleviate symptoms and not effect cures, and may promote a false sense of security, by masking the pain and irritation and causing the singer to think that less damage is being done to the vocal tract than actually is. The singer may then continue to perform when vocal rest might be more appropriate. OTC drugs may also produce 'rebound' phenomena - the return of the original problem with more ferocity. Lozenges can be used to encourage secretions in the mouth, but the sugar content coats the teeth, causing caries, and the vocal folds become covered with thick, sticky goo, hardly conducive to singing. Other ingredients such as menthol, eucalyptus, camphor, and peppermint may give an immediate feeling of 'cooling', but may cause excessive thick mucous production later.

Local anaesthetics included in some products to numb pain may also mask vocal damage as the singer sings. Antibiotics commonly used to treat bacterial infection are often wantonly prescribed. The side effects, which may affect the voice, include: allergies, dryness, metallic taste in the mouth, and secondary yeast infection. Expectorants increase secretions, and are usually taken to 'soften' a cough by providing a surface bathing of the respiratory linings. Gargling has yet to be proved to be effective. Cough suppressant mixtures often include agents that have a secondary drying effect on the vocal tract secretions, especially those mixtures containing codeine; they may also contain antihistamines. Aspirin is best avoided because it may cause a slight haemorrhage of small blood vessels on vocal folds suffering from excessive use or abuse, which can be devastating for the singer. Instead pain relievers of the paracetamol family are preferable.

Some singers regularly take large amount of vitamin C (ascorbic acid) in an endeavour to fight off colds and 'flu, and this too may have, among other side-effects in different parts of the body, a dehydrating effect on the vocal folds. Steroid medication for singers is controversial. It may well work for a short-term emergency, reducing inflammation in acute inflammatory laryngitis, but because side effects, in the main, are uncommon, there is a tendency for singers to overuse

the treatment. If used for any length of time there is a danger of change in voice quality, pitch and function.

The following are among the suggestions that might be made to a student with a common infection:

Avoid throat clearing where possible - the folds are brought together violently, with the risk of damage. Instead sip water, swallow silently or 'huff' a voiceless, silent cough. Use steam inhalation to thin mucous. The steam delivers moisture and warmth to the vocal folds and is often beneficial. However the temptation to add menthol or similar to the water should be avoided as it may be an irritant to the inflamed pharynx, larynx and nasal passages. Sing mucous off the vocal folds by singing arpeggios, glissandi rapid onsets, or trills. Try a 'sniff-swallow' - a sudden exaggerated sniff followed by swallowing. Reduce where possible irritants in the environment. Avoid hurried eating, or the inhalation of foreign material, which may cause coughing (powdered sugar and nuts are notoriously bad). Conserve the voice, avoid unnecessary talk and drink plenty of water in order to keep the vocal tract, and the body as a whole, well hydrated. Some mucolytic agents work well to increase or thin upper respiratory secretions including 'post-nasal drip'.

If a cough lingers then medical advice should be sought. Laryngitis very often requires voice rest - relative, but not always absolute silence. Medical opinion varies in this. Cleveland suggests that 'Voice rest can be appropriate for assistance in diagnosis and treatment of several voice problems' (2000, 65.) Absolute rest is better, usually for no longer than two weeks, for those who find it easier not to speak at all, rather than speaking infrequently and softly, Whispering should be avoided, the mechanism of the vocal folds is used differently in whispering, and thus may be a more traumatic vocal activity than speaking softly.

(b). Infection in the lower respiratory tract and elsewhere.

Pulmonary infections are disruptive to the voice and demand professional medical attention. Infections such as gastro-enteritis may affect the voice by, in the first instance, interfering with the control of the breathing mechanism. Anti-spasmodic agents are well known for their ability to reduce pain and spasms,

particularly those of the gastro-intestinal tract, but there is a likelihood of dehydration of the vocal folds as a side effect.

(c). Pharyngitis.

Pharyngitis produces a sore throat and is usually associated with tonsillitis.

It is a common complaint with a very diverse differential diagnosis. Despite the many benign and easily treatable causes, it can be a sign of underlying disease that, if missed, can have serious consequences... (Abaza and Sataloff, 1999, 37.)

2. Allergies of various types excluding asthma.

These common conditions do not bypass the singing population. They require specialist medical help and will not be discussed in this work.

3. Gastro-oesophageal laryngitis.

Gastro-oesophageal (reflux laryngitis) may have, amongst its symptoms, bad breath, a bitter taste in the mouth, hoarseness, frequent coughing or throat-clearing on wakening in the morning, vocal warm-up time may be prolonged. There may be the feeling of a lump in the throat, recurring tracheitis or tracheo bronchitis, and heartburn (there is currently debate about heartburn's being a symptom). Any or all of these symptoms may be present. Reflux is common among singers and is aggravated by stress and eating late at night after performance. Acid reflux can affect the vocal folds, particularly on lying down at bedtime. It is useful to elevate the head of the bed, maybe on bricks (having high pillows is not effective because of movement of the pillows during sleep). It is beneficial to avoid eating for three or four hours before going to bed. For persistent reflux appropriate medicines or antacids should be prescribed.

4. Body injuries.

Injuries such as whiplash, head trauma, nasal fractures, chest and abdominal injuries or injuries to the lower or upper extremities may affect the voice by, among other things, disturbance of postural alignment, altering the efficiency of the abdominal muscles needed for breath control, introducing tension. Pain will distract the singer. As aspirin is relatively inexpensive it is very popular with singers for reducing pain and inflammation, but as mentioned previously it is also an anti-coagulant and should be discarded in favour of the paracetamol family, even though the latter may not have the same anti-inflammatory effect.

5. Surgery.

Laryngeal surgery may be performed endoscopically or externally. Microsurgery of the voice suggests delicate vocal fold surgery. Most vocal surgery can be accomplished endoscopically, which is less traumatic for the patient. Should general anaesthesia be required then the anaesthetist must be chosen carefully. Careful and skilful intubation, using the smallest possible tube, is most important to avoid damage to the vocal folds. Laryngologists suggest that singers should stick adhesive tape to their forehead on which is written 'SINGER' upside down to remind the anaesthetist.

Voice rest following surgery is disputed. Sataloff advises:

Although some vocal fold contact will occur inevitably because of swallowing and coughing, more (avoidable) contact occurs during speech. ...Consequently, the author recommends voice rest routinely after surgery, unless the vibratory margin mucosa has been left in tact (1997, 641).

For surgery on other parts of the body it is anecdotally advised that quite a number of the physical exercise 'sit-ups' should be achieved before singing begins.

6. Psychological and psychiatric problems.

Stress, which may be physical or psychological, or both, invades most professions. There are special implications for the singer - not least, stage fright. Beta-blockers prescribed for pre-performance anxiety, it is reported, lessen the anxiety and increase saliva production which help combat the upper respiratory dryness associated with fear.³¹ Normally prescribed for those with heart problems, beta-blockers may have voice-related side effects such as throat spasms or sudden loss of voice. Tranquillizers may relax the laryngeal muscles and result in, among other things, off-key singing. They certainly take the 'edge' off performance. If in distress it is important to seek professional help.³²

7. Not-to-be-ignored warning signs:

Increased effort necessary in order to sing; the voice tires easily; pushing is necessary in order to 'get the sound out'; singing piano is difficult; straining to reach high notes; difficulty in singing legato from one pitch to another; the voice 'breaks' or 'creaks at the bottom of the range or 'squeaks' at the top; an inability to prolong notes and sustain phrases; loss of tone 'focus'; difficulty in beginning notes smoothly; sudden stops in the voice; sudden unexpected excursions of pitch upwards; changes in pitch or volume; deepening of the voice; inability to raise the voice; reduction in pitch or range; changes in the body; pain in the laryngeal area; dryness in the mouth; irritation, burning or scratchiness in the throat; a 'lump in the throat' feeling; increased need to clear the throat; sore throat during or after singing or talking; tiring of the breathing mechanism; changes in voice quality; hoarseness; increased breathiness; a 'quivery' quality to the sound; uncontrollable or irregular vibrato.

³¹ See further, Chapter 5 below.

³² See further, for specialist books, Butcher, Peter; Annie Elias, and Ruth Raven *Psychogenic Voice Disorders and Cognitive Behaviour Therapy*, London: Whurr, 1993; Morrison, Murray, and Linda Rammage, *The Management of Voice Disorders*, London: Chapman and Hall, 1994; Rosen, Deborah Caputo and Robert Thayer Sataloff, *Psychology of Voice Disorders*, San Diego; Singular, 1997 and for more general information see vocal health books in the bibliography.

If vocal problems persist longer than three weeks it is important to make contact with a medical practitioner.³³

'Don't take medicine without consulting your doctor' is timely advice and should be adhered to wherever possible. The wrong medicine, or even the right medicine taken incorrectly, can be disastrous for singers and may even make an illness worse. Some OTC medications can be more powerful than a doctor's prescription. It is important to stress that medications should not be used to mask symptoms that are the result of vocal misuse or abuse. In considering the use of medications the pharmacological properties of the drug should be given attention, as well as the nature of the condition itself and the circumstances of the singer. It goes without saying that it is important to check dates of expiration, to keep medicines in their properly labelled containers, never to share medications with a friend or colleague, and always to complete the prescribed courses of treatment.³⁴

Having shown in general terms how historical, psychological, ethical and scientific considerations impinge upon vocal pedagogy we are now in a position to discuss the questions of vocal technique, performance and evaluation.

³³ See further, Heman-Ackah, Yolanda D. 'Who Takes Care of Voice Problems? 'A Guide to Voice Care Providers', *Journal of Singing*, LIX, no. 1, November/December 2002, 139-146.

³⁴ See further, Stemple, Joseph C., *Voice Therapy: Clinical Studies 2nd Edition*, San Diego and London: Singular Publishing, 2001.

4

VOICES, TONAL IDEALS, CLASSIFICATION, AND TECHNIQUE

Before discussing particular aspects of technique we shall do well to consider voices as such, tonal ideals and voice classification. While our primary focus is on the eighteen-to-sixty-year-old voice, vocal pedagogues may properly be expected to have an understanding of childrens' and seniors' voices. Accordingly, we may usefully set out from a few remarks on these.

Voices

Children's voices

Currently studies are being made of how girls' and boys' voices differ.¹ As reported by Alison Utley, David Howard (York University), in connection with girls singing in cathedral choirs, is researching into the difference between the voices of girls and boys. He says, 'We are not asking whether the sound produced by girls is better or worse, but we are trying to find whether people can tell the difference' (*The Times Higher Education Supplement*, December 15, 2000, 48). An experiment using two hundred listeners revealed that over 50% could tell the difference. Welch states, 'vocal physiology is pretty much identical in children (between the ages) of seven and ten' (Haunch, 1999, 18). This implies that more detailed study needs to be made.

¹ See further, White, Peta, 'Long-term average spectrum (LTAS) analysis of sex-and gender-related differences in children's voices', *Logopedic, Phoniatics, Vocology*, XXVI no. 3, 2001, 97-101.

There are different points of view as to when children should begin to be taught to sing. Mary Garden has this to say,

The girl has no business to sing while she is yet a child - and she is that until she is sixteen or over...The voice will keep, and it will be sweeter and fresher if it is not overused in childhood (cited, Brower, 1920, 64).

Alma Gluck agrees with her,

...my vocal training did not begin until I was twenty...It seems to me that it is a very great mistake for any girl to begin the serious study of singing before that age, as the feminine voice, in most instances, is hardly settled until then (ibid., 67).

And so does Nellie Melba:

...the vocal training may be safely postponed until the singer is seventeen or eighteen years of age. The voice in childhood is a very delicate organ despite the wear and tear which children give it by unnecessary howling and screaming (ibid., 90).

But Rosa Raiso tells us that she, 'began to have singing lessons when I was eight years old' (ibid., 99). Ernestine Schumann-Heink speaks about the young male singer, 'I do not believe that he should start until he is past twenty or even twenty-two...the period of mutation in both sexes is a much slower process than most teachers realize' (ibid., 104).

Many who advocate delaying singing lessons suggest other instrumental training, for example, learning to play the piano, plus a good general and music education. But is it appropriate, or even possible, to silence the child who cannot help singing all day long? Surely, they would be better served to be taught to cultivate healthy singing habits in preparation for later years. But, unfortunately, singing teachers sometimes attempt to teach children skills by the use of imagery. On the one hand, 'Using a model of the diaphragm and lungs is one of the many interesting ways to teach low breathing' (Merrill, 2002, 38) - a good attempt at basic anatomy - but, on the other hand,

Light and heavy voices can be contrasted by throwing an imaginary feather in the air and singing 'light voice' with teeth apart as it falls, and then picking up something heavy and singing 'heavy voice' (ibid., 38).

Children, particularly in the twenty-first century, deserve better. If they can absorb the musical terminology, for example, pitch, rhythm, dynamics and phrasing, demanded of them by the same author in a later paragraph, then why not the terminology of singing technique? Later still the same author says, 'Learning to sing should not be a mystery' (ibid 39), thereby contradicting his recourse to imagery.

There is also a great wealth of literature, particularly belonging to children's own heritage, that it would be criminal to deprive them of. Of course, talented child singers should not be exploited or pushed to attempt technique or repertoire inappropriate for their physical and psychological development.² Many bad habits picked up in childhood are carried over into adulthood. It is a sad fact that sometimes as a result of inadequate teaching, children, no less than adults, develop vocal nodules. Children can abuse their voices by talking too much and too loudly. However, we must forego the temptation to assume that the vocal organs of the child are the same as that of the adult but smaller.

The adolescent voice change

1. Boys.

Adolescent voice change cannot be forecast accurately, neither when it will happen, nor how the voice will be affected, nor how long it will be before the voice settles into maturity. At puberty the male larynx grows bigger and the range of the voice drops by approximately one octave. The vocal folds grow by 4-11 mm, maybe as much as 60%. The boy's larynx becomes about 20% larger than a girl's larynx.

² See further, Welch, Graham F., and Peta White, 'The Developing Voice: Education and Vocal Efficiency - A Physical Perspective', *Bulletin, Council for Research in Music Education*, Winter 1993/1994, 146-156.

We are now back into the realm of psychology. Adolescent boy singers sometimes become stigmatised, first for singing at all, secondly for having a yet unchanged voice. This may result in their developing a negative attitude towards singing. For the unchanged male voice a manly identity has to be created. If they are still singing treble it is psychologically appropriate in choirs to stand them next to boys, rather than girl trebles, so as not to appear so obviously a male treble. Eshelman stated:

Adolescent boys are placed in an unusual predicament. If they sing in their unchanged voice, they may face ridicule from their peers, particularly if there is not a strong representation of male voices in their school choir. Older adolescents are not convinced that singing a soprano or alto part is legitimate. Further, if they try to sing in a changed voice, they cannot physically match the pitches and are subjected to a totally unsatisfying and perhaps damaging experience (1992, 25).

It is important that adolescent students should be taught by their singing teachers about the voice change process. They generally are very interested and enjoy the weekly 'testing' of where their voice has 'got to'. It must be fun and not embarrassing for the student.

Many teachers think it wise to keep boys singing through the voice change in a constructive and supportive environment in order to help them develop confidence in their changed voices and self-image and to encourage them to sing after the change. Other teachers negatively advocate non-singing until the voice 'settles'; or singing quietly or mouthing the words in choir. Looking back in history we find that Manuel Garcia II suggested that the voice should be rested during this change. Arguing against him was the eminent laryngologist Morel MacKenzie who said that the change was a natural development and the voice should be exercised. Cooksey claims that from Garcia's belief came the 'voice break' theory (1993, 16). He then concludes that if boys were encouraged to sing during this transition then more would continue to sing as adults (ibid., 37).³

³ See further, Harris, Lee D., 'An Investigation of Selected Vocal Characteristics in Young Male Singers at Various Stages of Maturation', *Texas Music Education Research*, 1993, 15-22.

Some boys are said to feel emotion akin to bereavement when their pre-adolescent voice disappears. It does not always follow that from an excellent treble or alto voice a voice of professional quality will appear. Nor can a baritone voice be definitely predicted from a treble, or a tenor voice from an alto, although this pattern frequently occurs. For example, Caruso and Pavarotti sang alto as a boy, and Terfel treble.

Choice of repertoire is an important consideration in the teaching of the changing voice. Songs must have ranges that they can sing comfortably and with few awkward intervals or leaps - new voices will not yet have much flexibility. This music is not easy to find.

It is often disheartening for the conservatoire male voice major when he listens to his female counterpart's voice facility, and wide-ranging repertoire. It must be borne in mind that the eighteen-year-old male is singing with a three to four year old voice, whereas, because of minimal change, his female peer has been singing with her voice for a lifetime.

2. Girls.

At puberty the girl's voice may lower in range by about a third. The vocal folds grow by 1.5-4 mm, or as much as 34%, becoming longer and thicker. There may be an adjustment time, although it is generally much less obvious than in her male counterpart. It is sometimes shown by reluctance on the girl's part to sing higher pitches. However, sometimes the reluctance may be because the young singer feels timid or uncertain about herself. By the age of fifteen or sixteen, girls have a preference of range in which to sing, (see below, vocal classification). The danger is that the choice of range may be cultural rather than physical - it goes without saying how great is the influence of the 'pop' scene on many teenagers.

Many young girls have breathy sound, which can sometimes be corrected by concentrated work on onset and release. Others have a breathy sound because of a posterior glottal chink, which does not always close, even with good technique, and may still be present in maturity. We shall resume these technical points shortly.

Maturing and ageing voice

Between the ages of twenty to sixty the voice is relatively stable, given good health, diet and exercise. Basic vocal activity can be maintained well into the seventies, physiologic age rather than chronological age determines this. The male voice sometimes rises during old age, perhaps because of diminishing testosterone levels. The female voice sometimes becomes lower due to diminishing oestrogen levels, although this is often rectified by the administration of hormone replacement therapy. Of course both sexes may suffer from atrophy (wasting away of cells), dystrophy (malfunctioning of cells) and oedema (excessive accumulation of liquids in the tissue) plus ossification and in some cases arthritis.⁴

Typical of the ageing voice is breathiness, loss of range, change in vibrato rate, development of tremolo, loss of breath control, vocal fatigue, pitch inaccuracies and other undesirable features. From the age of forty there are body changes that may affect the singing voice. There may be a decrease of blood supply to the larynx, resulting in a stiffening of the vocal folds, and the lungs may lose elasticity. Muscular strength may decline and coordination and reflexes may slow down. Many, but not all, of these conditions can be avoided, delayed, or reversed by regular training.

Tonal ideals

National schools of singing

As we have seen in our historical survey, in Western classical singing the main schools are Italian, German, French and English. They each have a distinctive tonal ideal, which is reflected in the pedagogy of these schools. Some would say there is also a distinctive Eastern European and a Scandinavian school. For purposes of illustration, only the four schools originally mentioned will be used. These schools of singing with their various traditions have been exported from their countries of origin to other countries, not necessarily of the same culture, both singly and in combination with each other. For example, a combination of

⁴ See further, Sataloff, Robert Thayer, 'Vocal Aging and Its Medical Implications: What Singing Teachers Should Know', *Journal of Singing*, LVII no.2, November/December 2000, 23-28.

German and English technique may be found in Japanese singers. The question arises, are these tonal examples based on aesthetic intentions or are they a result of the differing pedagogies? However that may be, if the voice is functioning efficiently and healthily then national schools of singing become redundant. Miller states, 'Vocal efficiency may best be described as producing the most favorable phonatory results with the proper levels of energy' (1997, xiii). This can be supported by the information from science now available and readily useable by teachers from all the national schools. This is not to say that all singers sound the same; voices are as individual as personalities:

In those cases where physical function must be violated in order to produce a tone in keeping with a particular national aesthetic ideal, the singer may wish to re-examine the sound produced and look for some more efficient method of production. Without some knowledge of existing techniques a singer is hardly in a position to assume that the peculiar technique encountered by mere chance or physical location is unquestionably the superior one (*ibid.*, xxxvii).

There will, of course, always remain cultural, linguistic, temperamental, and aesthetic differences in *interpretation* of the literature.

If some Europeans have jealously guarded their national tonal ideals, Miller has said of his homeland that

There is no American national school of singing because teachers trained in each of the national vocal traditions have continued to go their diverse ways; within American pedagogy there is less unity of approach than in any of the major countries of Western Europe (1977, 201).

This quotation may be enlarged upon in two ways. First we see that originally classical singers in America came from Europe. During World War II the lack of availability of European singers encouraged the cultivation of singers trained at home. Unfortunately, on his arrival at the Metropolitan Opera House, New York in 1951, Rudolf Bing encouraged European singers back again to the detriment of the American singers. Later, many American singers were lured over the Atlantic, particularly to the German opera houses. Of historical significance is

the fact that while most of the repertoire in demand since 1600 was from Italy, Germany and France, these countries, for one reason or another, were not producing a supply of voices to sing it. There was a general decline in the national schools of singing. The Americans, with a multi-historical training background from the national schools, and great versatility throughout the literature, today flourish all over the world and dominate the international scene. They are heavily criticized for a generality in their interpretation, but praised for well-trained technique. Secondly, because 'the world has grown smaller' and people travel widely there is a tendency for a basic core technique to develop, which is derived from a mix of the national schools plus the maintenance of distinctive nationality. It may therefore become increasingly difficult to justify the judgement, which the Italian Caruso passed upon the French:

The "bleat" or goat voice, a particular fault of French singers, proceeds from the habit of forcing the voice, which, when it is of small volume, cannot stand the consequent fatigue of the larynx (1909, 58).

In our quest of healthy and efficient vocal technique we may set out from James McKinney's claim that among the characteristics of good vocal sound are those that are:

1. freely produced
2. pleasant to listen to
3. loud enough to be heard easily
4. rich, ringing, and resonant
5. energy flows smoothly from note to note
6. consistently produced
7. vibrant, dynamic, and alive
8. flexibly expressive (1994, 77)

He goes on to say, 'Beautiful sounds start in the mind of the singer. If you cannot think a beautiful sound, it is an accident if you make one' (ibid., 77). Freed researching into imagery in early twentieth-century American vocal pedagogy advises, 'Make a picture of a beautiful tone, then produce it now' (2000, 9).

We may consider the aspects of voice quality emanating from physical characteristics in all humans, for example, the complex vibrating of the vocal folds, and the flexible vocal tract which gives the particular intensities of the various harmonic overtones. We see that, although each singer may share the same basic vocal fold function and fundamental frequency, the nature of human uniqueness determines the individual voice quality. Hence the theory that when the voice is functioning healthily and efficiently the result is the individual singer's own, unique, most beautiful sound, which will be pleasing to all honest ears which are not demanding their own tonal ideal, conditioned by the various factors noted in this section. We have the same physiology and therefore can basically, be trained in the same way, but the resulting sound will be different to the discriminating ear. Of course, the shape of the vocal tract can be changed at will, thus varying the resonating characteristics, even though the distinctive quality of the individual's voice is maintained. Some teachers would say that this is done, among other things, as vowels are changed, colouration of text takes place, and the vocal tract is manipulated to produce special effects.

Can a tonal concept be established or altered? Here we are back to psychology and the learning process. Singers are very often heavily influenced by hearing beautiful vocal sounds from accomplished singers and they can be tempted to imitate those particular sounds.

Why is one tonal concept preferable to another? Does the cultural environment have an influence? How are changes to be made? Miller stresses: *'Timbre does not need to be created to meet some preconceived notion; it needs to be freed'* (1999, 28).

It is the singing teacher's responsibility to recognize which of the sounds produced by the student are of free timbre and which are not. Following diagnosis of the faults comes the prescription of beneficial solutions. Persistence on the part of the student to overcome old habits and replace them with new ones will be essential. The singer has to be convinced that freely produced sound is superior to the one rejected - the singer may already be receiving professional acclaim, and the thought of change could be daunting. This is where clear and structured teaching is vital. On the part of the singer awareness of the three elements of hearing, feeling

and seeing the differences in the freely produced tonal quality from the previous undesirable sound should be apparent.

Singers are sometimes reluctant to make fundamental changes in tonal concepts. The quality of sound that the student is making may have become part of their personality. A critical evaluation of that sound may be felt as an intrusion into personal privacy, the more so if the singer has been acclaimed for their singing. There may be fear of losing that prestige. Hence, once again, the teacher's need to understand the psychology involved in proposing changes in what is, strictly, *personal* behaviour. Perhaps an isolation of the particularly good sounds should be made, rather than a complete clean sweep attempted. The singer can then focus on these good sounds determining and understanding how they are better than other sounds, and gradually build the new tonal concept from there. The criticism should be specific; a justification of the judgement should be offered; and the singer should be given factual, linguistically precise, technical suggestions designed to improve matters.

Vocal classification

Voice categories

Traditionally, the main categories of the singing voice in Western culture are, for men: bass (low), and tenor (high); for women: contralto/alto (low), and soprano (high). Although statistics are unavailable, most voices appear to have medium ranges, and this is reflected in much of the literature of folk song. Ideally, therefore, general classification should include the medium range voices of the baritone (male) and mezzo-soprano (female). In trained male voices baritones abound, and the tenor is more of a rarity; whereas female trained voices include many more sopranos than altos. The unusual voices are the extremes, bass, tenor, contralto and high soprano

A well-trained voice with professional potential will generally have a compass of two octaves, although many singers will exhibit wider ranges. Published material on the 'normal' ranges of the various categories of voice are not altogether helpful. Professional voices rarely correspond to such suggestions; their

range is, very often, much more extensive. It is not unusual for both lyric and dramatic tenors to have several pitches below C3 (USA Standards Association). The tenor Caruso's much publicized feat of singing the bass aria, *Vecchia zimarra, senti* (Puccini, *La Bohème*), when at one performance the bass's voice gave out does not impress many professional tenors (though no tenor could match Caruso's unique vocal timbre in any range). Some females can sing the range of both mezzo-soprano and coloratura voices, the latter being traditionally a high voice with exceptional agility; some baritones can sing the range of tenors.

Within the main categories there are many subdivisions. These divisions often overlap, and may vary from country to country. Thus, for example, there exists in the German theatre the *Fach* system. *Fach* refers to a particular category of voice. The male voice may be characterized as *Bass-Bariton*; *tiefer Bass*; *Bass-buffo*, or *komischer Bass*; *hoher Bass*; *Spielbariton*; *Heldenbariton*; *hoher Bariton*; *Kavalierbariton*; *Heldentenor*; *lyrischer Tenor*; *Spieltenor*, and *hoher Tenor*. Female voices include *Soubrette*; *hoher Sopran* or *Koloratur Sopran*; *lyrischer Sopran*; *dramatischer Sopran*; *dramatischer Alt*, and *komischer Alt*.

Very often the nature of the character to be portrayed determines the category of voice necessary. For example: the *tiefer Bass* may sing Sarastro in Mozart's *Die Zauberflöte*; the *Spielbariton*, Don Giovanni, (*Don Giovanni*, Mozart); and the *lyrischer Tenor*, Max in Weber's *Der Friesenhütz*. A *Soubrette* may sing Susanna (*Le Nozze di Figaro*, Mozart); and a *lyrischer Sopran* may play Richard Strauss's *Arabella* (*Arabella*). France and Italy have similar designations, while English speakers use a compilation from German, French and Italian sources.

But there is more to determining *Fach* than labelling voice types. We must also consider the density of orchestral scoring underlining some operatic roles. A composer may write in such a way that *sostenuto* (sustaining the melodic line) is difficult for certain categories of voice; the *tessitura* (that part of the musical range in which most of the pitches of the melody 'lie') may be unsuitable for some vocal types. For example, the character Rigoletto is scored for the baritone range, but the upper part of the voice is continuously exploited, making the part uncomfortable for some baritones. Roles that demand agility skills are not always appropriate to certain voices. Some would argue that singers ought to have the

technical ability to surmount such obstacles, but a vastly unsympathetic conductor can play havoc with a singer's best intentions. And we must remember that many roles were written with a particular singer of the day in the composer's mind.

At this point mention must be made of the counter tenor or male alto. Some teachers would say that these are two different categories. However this writer suggests that the counter tenor is usually a baritone who has made the artistic and aesthetic decision to sing in the male falsetto register. It could be said that 'Falsetto' here means an artificial method of voice production using only partial vocal fold vibration.⁵ A counter tenor is not a singer with a rare type of vocal instrument, nor is he an imitator of the seventeenth and eighteenth century castrato sound.

How should we try to categorize the individual voice? Most singing teachers appreciate that students need to sing songs as well as practise technical exercises. There is a (probably apocryphal) tale concerning Nicola Porpora, an eighteenth century singing teacher. He is said to have taught the castrato, Cafferelli, to sing by using just one sheet of vocal exercises for six years.⁶ However, to make the singing of songs possible (and despite the dangers) even beginning students need to have their voices loosely classified. To this end, it is advisable to begin vocalizing in the middle area of the vocal range, very gradually extending the range of the lower and higher pitches until the voice begins, in some cases as it develops, to classify itself under the care of the teacher. Songs can then be assigned which are appropriate to the range of the beginner. Vennard says:

I never feel any urgency about classifying a beginning student. So many premature diagnoses have been proved wrong, and it can be harmful to the student and embarrassing to the teacher to keep striving for an ill-chosen goal. It is best to begin in the middle part of the voice and work upward and downward until the voice classifies itself (1967, 78).

Range is not the only factor in categorization. The timbre, quality and size of the voice need to be considered. We can be more precise if we determine the

⁵ See further, Richard Miller's clear description of the counter tenor's vocal technique in *The Structure of Singing*, New York: Schirmer Books, 1986, 123-125.

pitch at which the voice registers change. Here we step on a hornet's nest, for there are diverse viewpoints about the registers in the singing voice. Some say there are no registers at all; some advocate seven registers and others adopt a middle of the way opinion (Miller, 1997, 122-124). The untrained voice has an easily perceived change in timbre at certain points in the ascending scale. The laryngeal muscles change position and there are corresponding changes in the resonator system above and possibly below the larynx. Together, these happenings determine the register phenomena.⁷ The aim of the trained singer is to blend these events into a unified scale.

Even the choice of words for registers may present problems. Some schools of thought use such words as 'break', 'lift' and 'change of gears' which, psychologically, suggest division between registers rather than a totally unified range.⁸ In the male voice the first change (registration event) is considered as the *primo passaggio* (first passage); the second as the *secondo passaggio*. In the female voice the terms generally used are the lower *passaggio* and upper *passaggio*. The *zona di passaggio* (passage zone) lies between. The term *passaggio* is part of the international vocabulary of vocal pedagogy.

There are individual variations in the various vocal instruments but, on the whole, changes in register are fairly predictable. In the male voices of a given *Fach* the main registration events will tend to occur on the same pitches, thus, the approximate register events for some male categories are as follows:

	<i>primo passaggio</i>	<i>secondo passaggio</i>
lyric tenor	D (4)	G (4)
lyric baritone	B (3)	E (4)
deep bass	Ab (3) (G (3))	D (4) (C (4))

The speaking voice comprises more than one octave and untrained singers are usually comfortable singing in this range. However, adolescent males and

⁶ See further, Pleasants, Henry, *The Great Singers*, London: Macmillan, 1981, 67.

⁷ Vilkman and colleagues suggest that registers are biomechanical happenings and depend on several physiological and aerodynamic events. See further, Vilkman, E. and Laukkanen, A. M., 'Vocal-fold collision mass as a differentiator between registers in the low-pitch range', *Journal of Voice*, IX, no 1, 1995, 66-73.

⁸ See further, Miller, Richard, *The Structure of Singing*, New York: Schirmer, 1986, 115-126.

untrained male singers find that at a certain point in the rising scale tension becomes apparent, and they involuntarily raise the chin and the larynx. The corresponding pitch is the *primo passaggio*. Pitches may be sung beyond this point but the larynx is raised and strained in order for this to happen.

The quality of tone changes and becomes more noticeable as the scale ascends and the untrained voice will either stop completely or suddenly move into falsetto. This 'stop' usually happens at pitches about the interval of a fourth above the originally felt need to raise the larynx and this point is the *secondo passaggio*. The area in between the *primo passaggio* and the *secondo passaggio* is called the *zona di passaggio*.

There are similar occurrences in the female voice, but they do not directly correspond. Structurally female voices have differences from male voices. As well as the visual external difference in size of the larynx, the change experienced in puberty by the adolescent male differs from that of the female adolescent. Of course there are individual variations in some voices; not all instruments are the same. However, on the whole, these registration pivotal points are fairly predictable. The following are the approximate register events for some female categories:

	lower <i>passaggio</i>	upper <i>passaggio</i>
soprano	Eb (4)	F# (5)
mezzo-soprano	E(4) (F(4))	E (5) (F5))
contralto	G (4) (Ab (4))	D (5)

There is no need for urgency in formally classifying a singing voice. Mistakes are easily made which can be embarrassing to the teacher and harmful to the student. The voice may change and call for reclassification. Vocal maturity, the appropriate chronological age, and professional potential do not always appear simultaneously. At all stages complete and adequate preparation is necessary. As technical ability and security develop, and as physical maturity occurs, accurate vocal categorization should emerge. Goethe said, '*Die Natur weiss allein, was sie will*' (Nature alone knows what she wants).

We end this section with another preposterous quotation found by Freed and used at the beginning of the twentieth-century, 'Voice has one register, the Facial Register' (2000, 9).

The dangers of incorrect vocal classification

Shining, resplendent and excited, armed with a generous scholarship and travel grant to study in Europe with a noted singing teacher, a young professional baritone from the other side of the world attends his first lesson. He sings, he mentions various vocal problems that he is having and, to his great surprise, advice from his new teacher, confirmed by a colleague, suggests that the enthusiastic baritone is really a tenor.

What happens next? This singer was making a name for himself in the professional world as a baritone and so he has to start all over again. The scholarship and travel grant was awarded for baritone prowess and now, here he is a tenor, so the funding may be withdrawn. Retraining, which entails learning new repertoire and new roles may take at least two years - who will pay his tuition fees? How will our new tenor maintain himself in a foreign country? This situation is not uncommon. Many professional careers, both male and female, have been disrupted by incorrect vocal classification. My training and experience suggests that the following points are relevant when attempting to classify voices:

1. Chronological age is not a reliable guide as voices mature at a different rate.

2. It is advisable to refrain from classification according to pitch range. Some females are able to sing the pitches of both mezzo-soprano and coloratura. The range of the voice is not the primary factor in determining vocal category. It is more useful to consider the quality and the *tessitura* (the area in the voice which sounds and performs the best and is most comfortable). There is a danger here in the word 'comfortable'. For example, there are many altos - particularly in choirs - who are 'comfortably' singing, but who are really sopranos. As stated above, there are very few altos and many sopranos.

3. Classification by timbre has dangers. Timbre may be disguised in individual voices because of compensatory methods in vocal technique.

For example, over-energized or 'pressurized' sound.

4. Sometimes a genuine change in vocal category occurs in mid-career as the voice matures and vocal technique becomes more secure, particularly in the area of resonance balancing ('voice placement'). For example, a mezzo voice may become a dramatic soprano; a baritone may become a dramatic tenor. It will then be necessary to review the singer's *passaggi* to ensure that the change is legitimate.

5. The imitation of a mature voice on recordings, or even of the teacher's singing voice has its dangers. A fifteen year old girl endeavouring to learn *Arie Antiche* may sing along with a recording of Cecilia Bartoli, imitating, either innocently or with intent, in order to cultivate Bartoli's sound. At the opposite end of the scale, how many fifty-eight year old Susanna's do we want to see or hear?

6. Female voices often mature earlier than their male counterparts although, of course, there are exceptions. It has to be remembered that an eighteen-year-old male who underwent voice change at fifteen is singing with a three year old voice. He may sometimes become frustrated and discouraged, particularly by the apparent vocal maturity and technical ability of his female peers.

7. The young soprano with a big voice, potential *lyrico spinto*, is likely to mature more slowly than her *soubrette* or *coloratura* colleague. Her instrument tends to be more unwieldy and may not so readily access the upper ranges. She may, unfortunately, be classified as mezzo-soprano and not be encouraged to extend and develop her range upwards.

8. Young mezzo-sopranos should not be required to darken their voices in order to sound more mezzo-like (the chances are that they are sopranos anyway).

9. Both trained and untrained mezzos may be found who dislike their natural, designated vocal category, and thus mistakenly imitate the soprano and even sing her repertoire.

10. There are so few true contraltos and it can be dangerous for the teacher to encourage the student to become one by allowing her to sing only in the lower half of her available range.

11. A male of twenty-one should not sound like a sixteen-year-old youth; a young female adult should not sound like a girl of fourteen. 'Undersinging' (the voice without energy) should be discouraged. It can cause almost as much harm as 'oversinging' where the voice is pressurized to sound mature.

12. Many young singers sing-along with pop recordings. These usually have a very limited range, which utilizes mainly the lower middle voice. This often results in that part of the voice becoming over-developed. Difficulties ensue when the classical repertoire is attempted and smooth entry into the upper voice is crucial.

13. Some voices have been inhibited in their true development because the teacher was not able to explain how to apply energy without pushing or straining.

14. It is vital that teachers avoid encouraging the development of a voice exclusively to their own taste. For example, some teachers have distaste for the tenor voice. In this instance it is far better that the teacher discreetly refuses to teach the tenor student rather than trying to train him into the baritone range.

15. Although voices are housed in physiques that to some extent dictate categorization, physical appearance can be misleading. Big voices may emanate from small bodies; not all tenors and sopranos are short-necked; not all basses are tall and gangling; nor are all mezzos and dramatic sopranos generously built. Tenor vocal folds may be housed in a baritone-sized larynx and *vice versa*.

16. There is danger in singing inappropriate repertoire. Most of the literature, particularly songs, does not need *fach* categorization, but there are exceptions that the singer/teacher needs to be aware of. The young soubrette, for example, should not be asked to sing Schubert's *Die junge Nonne* and, certainly, most young singers should not be battling away through operatic arias.

17. Choral directors sometimes demand young, changing-voice males to remain in the tenor section of the choir on the plea of being short of that voice, even though the young male is clearly ready to sing baritone.

18. Choir members very often classify themselves into a too 'comfortable', albeit vocally unhealthy, lower to medium range. Medium voiced males may not have explored their upper range - they may be tenors. Similarly many female 'altos' have not learnt to negotiate the upper *passaggio*; consequently, their upper range is undeveloped and we then have unhealthy voices.

19. It is important to beware the cultural attitudes and national tonal preferences, which sometimes aid in determining vocal categories. For example, the straight-tone of the English choral tradition; the heavy 'covering' (darkening of the sound by the modification to rounded vowels in order to assist in negotiating a smooth register transition) of the German school.

Ultimately, vocal maturity and soundly based secure technical ability will determine accurate vocal classification and this cannot and should not be hurried. Joan Sutherland began as a mezzo and then became a coloratura soprano (it has been suggested that she imitated her mother's mezzo voice and learnt her mother's repertoire as a child). Marilyn Horne was at first a lyric soprano and then became a mezzo. Leonard Warren experimented with his voice as a tenor and became a dramatic baritone.

Technique

In the light of the foregoing discussion we may now turn to questions of technique, noting how these require familiarity on the part of the teacher with those psychological, anatomical, physiological and acoustical insights with which the preceding chapters have been concerned.

In this section the general approach may be said to reflect the tradition of vocal pedagogy by which I have been most greatly influenced, namely, that flowing down from William Vennard, Richard Miller, and Donald Bell. So much is it the case that the vocal pedagogue is an apprentice of his or her teachers that through constant repetition on certain technical issues they speak a very similar language. In view of this it should be noted that actual quotations from my mentors are scrupulously specified and referenced.

Caruso stated '...there are as many methods as there are singers, and any particular method, even if accurately set forth, might be useless to the person who tried it' (Caruso, 1909, 51). Yeatman Griffith says, 'A student, rightly taught, should know the cause for everything he does, how he does thus and so why he does it' (Brower, 1920, 72).

Impulse

The brain knows the sound it wants to make and sends neural impulses through the central nervous system. The desire to phonate is passed by two branches of the vagus nerve to the larynx. Much research has yet to be done to discover exactly what happens.

The coordinated onset and release of sound

We may discuss this point in the relation to Bernoulli's Principle, as defined by Titze: 'If the energy in a confined fluid stream is constant, an increase in particle velocity must be accompanied by a decrease in pressure against the wall' (1994, 331).

The Bernoulli effect has often been applied to phonation:

Assume that the vocal folds are nearly approximated at the instant the air stream is released by the forces of exhalation. The air stream will have a constant velocity until it reaches the glottal constriction. Velocity will increase, however, as the air passes through the glottal chink. *The result is a negative pressure between the medial edges of the vocal folds, and they will literally be sucked toward one another* (Zemlin, 1988, 146).

Ladefoged draws an analogy with bellows (1962, 248) Vennard compares the action to an atomizer (1967, 40), and Colin Watson believes that it is an oversimplification to associate vocal fold closure as a direct result of Bernoulli effect,

Closure results from approximation of the vocal folds by rotation of the arytenoids. Thereafter the vibratory locus of the epithelium and fold body brings the folds together and the nature of this interaction is largely defined by the shape and pressure of this closure. The Bernoulli effect does play a part in dictating how the epithelium behaves but the prevalent view of the Bernoulli effect somehow sucking the folds together as the main motive force is wrong (1989, 24).

Many singers are puzzled how best to begin and end a sound efficiently and healthily. The matter is technical but not mysterious. Coordinated onset and release of sound simply means the efficient, balanced, beginning and ending of sound. We need to refer again to historical tradition, acoustics, anatomy and physiology and all becomes clear. The way in which the singer, at whatever level of achievement, begins the initial sound determines the rest of the phrase. Similarly, the way the sound is ended influences the beginning of the next phrase. Coordinated onset and release is one of the very first aspects of technique to be learnt and belongs with the teaching of breath management. Practice of onset and release should be part of the daily routine of the singer/student.

As we saw in the previous chapter, at the top of the trachea, inside the larynx, are the vocal folds. In combination with the intrinsic muscles of the larynx the vocal folds act as a valve. The primary use of this mechanism is to stop the movement of breath. In this way food is prevented from entering the lungs. The closure also occurs, for example, in defecation, in the labour of childbirth, and in lifting heavy weights. A secondary or superimposed function is the making of

purposeful noise by animals, and the further development of this by humans into an art form - hence we sing.

Balanced onset and release is the result of laryngeal muscle balance and elasticity. This is achieved when the breathing muscles and the muscles of the valve are synchronized. Freedom in the singing voice follows. Uncoordinated onset and release results in either hyper (excessive) or hypo (deficient) function of the musculature.

Wyke suggest that EMG (electromyographic) studies of the intrinsic muscles of the larynx show that they actively but briefly assume positions and degrees of tension necessary for the production of sound; and that expiratory airflow begins and subglottic air pressure starts to rise before actual sound emerges (1974, 296). Therefore, attention can be directly or indirectly focused on the position the vocal folds assume before the onset of sound.

There are three types of onset: the hard attack, the soft onset, and the balanced onset.

1. The hard attack is sometimes known as glottal attack, stroke of the glottis, *coup de glotte*, *colpo di glottide*, and *Glottisschlag*.⁹ In glottal attack the glottis closes firmly before sound begins and breath pressure is applied. There is much more early and even violent action by the vocal muscles than in the other two forms of onset. This has been revealed by EMG. As sound begins the excess air pressure below the vocal folds explodes suddenly and a catch can be heard in the voice. The technical term is 'glottal plosive' and it sounds rather like the weight lifter's grunt, or a light cough. From our studies in the previous chapter we can see that this hard attack is vocally abusive. The International Phonetic Alphabet (IPA) symbol is [ʔ]. To experience this onset, the spoken sequence 'Uh, Uh, Uh, Uh, Uh' can be repeated slowly as a phrase, lingering over the glottal plosive [ʔ]. The moment when the glottis is released to produce sound can be sensed. This exercise should not be practised.

⁹ See further, Chapter 1 above.

2. In the soft onset the flow of breath (expired air) is consciously felt by the singer immediately before the sound begins. This, therefore, is an aspirated onset, a breathy beginning, heard as a soft blowing sound (IPA symbol [h], and breath is wasted. Very often the singer will compensate for poor quality sound by tensing the breathing mechanism and laryngeal musculature in order to improve the sound, again unhealthy voice production. In the breathy onset, laryngoscopy reveals an open triangle at the posterior section of the vocal folds.¹⁰ The folds begin to vibrate a fraction of a second after the aspirated noise, until the full tone is heard, (Luchsinger and Arnold, 1965, 85). If the spoken sequence 'Ha, Ha, Ha, Ha, Ha' is repeated several times, slowly as a phrase, lingering over the initial aspirated [h] of each syllable, one can feel or sense the breath passing over the vocal folds first with the sound following.

As can be seen, the hard attack and the soft onset are opposing methods of initiating sound and neither encourage healthy, efficient vocal function. They are best described simply as the 'grunt' and the 'whisper'.

3. The balanced onset occurs when the singer avoids both the pressurized grunt and the whisper, and achieves a balance between the two. This balanced onset is midway between the hard attack and the soft onset. Miller states, referring to Wyke, that "'Prephonatory tuning" of the instrument takes place and this "tuning" occurs with great rapidity throughout the changing utterances of spoken or sung phonation' (1986, 4). 'This *prephonatory tuning* of the laryngeal musculature... is the principal voluntary contribution to the control of the larynx during speech and singing' (Wyke, 1974, 297). It goes without saying that this process also involves the breathing and resonating mechanisms. The spoken sequence 'Ah, Ah, Ah, Ah, Ah' may be repeated several times slowly as a phrase, imaging a brief [h] before each syllable but not letting it be heard. There should not be a feeling as of breathing out (although, of course, airflow begins), or that the breath is moving before the sound begins. This can be compared with a laugh. There is a generous flow of air between the 'ha-ha-ha's' but the vowels themselves are loud and clear. If precisely performed, balanced onset will improve easily with practice. There will

¹⁰ See illustration, Appendix 4, no. 11.

be an awareness of the moment of onset, but the onset is not the same as the glottal plosive of the hard attack. No breathiness should be heard. The tone will begin immediately, clearly and precisely and any jarring or vocal abuse will be avoided. The ear monitors the whole process. The balanced onset should be imagined or heard inwardly before the action begins, as, also, should the whole phrase.

The balanced onset can next be rehearsed in musical exercises. These should be sung within a comfortable medium range, in a number of different keys, gradually extending the range. Strict rhythm is essential and the final note must be given its full rhythmic value. A release (breath taken in) should happen after each note, with expansion taking place in the abdominal area. This breath will feel so slight that the feeling will be one of hardly breathing at all.

Onset and release exercises encourage balanced and disciplined breathing. The release is effectively the new breath. The nature of the release determines the next onset, which must be executed rhythmically within the phrase, terminating at an exact point. An efficient onset may end badly, although generally, a clean onset results in a clean release (as with the 'ha-ha-ha' laugh above). If the release is hard a grunt will occur; if soft, breathiness will be heard. In the balanced onset-release vocal quality will be consistent from beginning to end. The same exercises as for onset may be used. In all of this we are at the very beginning of technique. Over a period of time exercises may be presented which are even more progressive and demanding. The coordinated onset and release will result in freedom in sustained singing and agility.¹¹

Breath management

Techniques of breath co-ordination should be uniform among singers . . . Learning to manage airflow and subglottic pressure demands a subtle co-ordination of aerodynamic myoelastic factors (airflow and muscle response) that is the foundation of cultivated singing (Miller, 1993, 15).

¹¹ For relevant exercises see Miller, Richard, *The Structure of Singing*, New York: Schirmer, 1986, 11-12.

But Titze has this to say about the different theories of breathing technique:

Theories about breath support are difficult to test because interactions between groups of muscles in the thoracic and abdominal regions are complex. Furthermore, what is efficient for one individual may be less efficient for another (1994, 74).¹²

Placido Domingo talks about 'support' when discussing breath management:

When I started to support, in order for me to remember, I used to have a very tight elastic belt...which I still use. And also to sing against the piano...I push the piano away...So my feeling is that when I am singing, I should be able to push anything that is against me...I don't use the elastic belt very much today, because I know what I am doing (Hines, 1988, 104).

Sherrill Milnes gets it right when he says,

When we breathe in, the diaphragm, which is a curved muscle here [he indicated the bottom of the rib cage], as it starts to flatten, pulls the lungs down. That creates a partial vacuum and in goes air. As the diaphragm goes down it tends to displace organs and other things in a manner, which makes expansion all the way round...*not* just in the front or the sides, but also in the back (cited, Hines, 1988, 174).

It must be made clear that the diaphragm does not 'support' the tone.

Vennard is adamant in pointing out: 'Phonation, for singing, at least, is **expiratory**, and the diaphragm is an **inspiratory** muscle'. He goes on to say,

In controlled exhalation, as in singing, the inspiratory muscles resist the abdominals, causing the act to be much slower and more steady...a well-developed diaphragm is essential to breath control, but it **steadies**, rather than **supports** the tone. In order to sustain the singing sound the breathing muscles have to maintain their inspiratory position for as long as it is comfortable, thus delaying the expiratory section of the breath cycle. This co-ordination or balance of the muscles of the torso is called *la lotta vocale* (the vocal contest, or struggle) after the nineteenth-century Italianate school.¹³ During

¹² Titze (1994, 74) goes on to recommend detailed discussions on breathing by Vennard, 1967; Proctor, 1980; Hixon, 1987).

¹³ See further, Chapter 1 above.

la lotte vocale the upward movement of the diaphragm and the inward movement of the rib cage is slowed down. (ed. Gurnee, no date, 12).

The most efficient way to achieve *la lotte vocale* is the application of *appoggio* technique (again from the Italian school).¹⁴ *Appoggio* is derived from *appoggiare*, meaning to lean against/support/ sustain/rely upon. The term is not used exclusively in connection with breath management, but covers actions which involve counterbalancing other muscles and organs as, for example, in the production of well-resonated sound. Both Miller (1986, 23) and Davis (1998, 10) support the *appoggio* technique. However, Davis has tried to simplify the terminology of breathing technique. He writes:

Diaphragmatic-intercostal breath management is a system of breathing for singing that employs the following parallel activities during inspiration:

1. Downward movement of the diaphragm and the resulting displacement of the viscera
2. Raising of the sternum and increasing the circumference of the thorax

During exhalation the parallel activities include:

1. Tensing the muscles of the abdomen (which pushes the viscera up against the diaphragm) while -
2. Attempting to hold the position of the raised sternum and enlarged thorax (ibid, 15).

Davis goes on to say that although it appears simple, it is not. The physiology of breath management is complicated, and added to that are the tensions and bad habits which singers develop.

In *appoggio* the singer is learning to establish and maintain a vital balance among muscles of the abdomen and upper torso. This delays the emission of breath for sustained phrases and encourages silent breath renewal for following phrases. Visually, on inspiration expansion takes place in the lateral and anterior abdominal wall just below the rib cage, and in the lower dorsal region. On expiration the reverse occurs. Time and practice improves the extent of expansion and the co-

¹⁴ See further, Stark, James, *Bel Canto. A History of Vocal Pedagogy*, Buffalo, New York: University of Toronto Press, 1999.

ordination and development of musculature in these areas. Good posture is the priority in *appoggio*, and voice teachers need to be able to apply their anatomical and physiological knowledge in such a way as to encourage this. This is especially necessary since, as we noted in the first chapter some teachers with little medical justification encourage, for example, strenuous and dangerous muscular abdominal activity. And, of course, in many studios subjective imagery still appears, which usually obscures more than it reveals where technique is concerned. There are also the different methods of breathing in the different schools of singing, for example, the German school advocates belly breathing; the French school promotes high chest breathing and the *appoggio* technique derives from the Italian school and has been adopted by many American singers, and in Britain there is a mixture of all three European schools. The following three suggestions work harmlessly with the body rather than against it.

First, as we have seen in the history chapter, in the 'noble' posture of the historic Italianate school the sternum is elevated and the rib cage thus easily expanded.¹⁵ The abdominal muscles are then free to retain their counteracting relationships (*la lotte vocale* - The vocal contest or struggle) without being tense. We must now explain how this may be achieved. The feet should first be placed approximately hip-width apart, with the weight distributed evenly between the balls of the feet and the heels, the knees released (the study of physiology reveals that when the knees are tense and pushed back, the pelvis tilts forward and true bodily alignment is disturbed) and the arms raised above the head, by the ears, while breathing silently and deeply. The arms are then lowered back down to the sides of the body and the relatively high sternum gained is maintained. The sternum should not be so high that it cannot go any higher. The shoulders should be released (I avoid the word 'relax' wherever possible in order to keep up the poise, balance and energy needed to sing well) and the chin neither elevated nor lowered.

Secondly, a supine position on the back with the head raised by books (sufficient neither to raise or lower the chin - the teacher is needed to assist) can make one more aware of the correct alignment of head, neck and torso and of the

¹⁵ See further, McNaughton, Elizabeth, *Breathing for Singing and its Vocal Pedagogy*, London: Phoenix Again, 2002.

stillness of the upper chest during normal breathing. When lying down there will, on inhalation, be a slight, mainly lateral, outward movement of the abdominal wall. Only at the end of each breathing cycle will any inward movement be felt. One hand may be placed flat between the naval and sternum, while the other hand rests on the side of the torso between the lowest (tenth) rib and the pelvis. Breathing should be normal and silent - notice that there will be some outward and inward movement between the lowest ribs and the pelvis, but less in the area between naval and sternum. On standing up slowly, an endeavour should be made to achieve a similar feeling of body alignment. With the hands in the same position as when lying down, the muscular movement of the breathing mechanism should feel similar and the upper chests should remain still. Although the influence of gravity will prevent the feelings experienced, supine or upright, from being completely identical, the exercise is a useful teaching aid.

Thirdly, the Alexander Technique, as discussed in Chapter three, encourages the ideal posture for singing.

When good posture is securely established, a daily, disciplined systematic regimen of exercises to establish good breath co-ordination should begin. Breathing for singing will be mainly through the mouth. The way to train the musculature to remain almost in the position of inhalation for extended periods of time is by practising short, vibrant, staccato pitches with silent breath replenishment following each note. The muscles are then trained to avoid the habitual contraction of exhalation as in normal breathing. With the sternum remaining elevated, the diaphragm descends further and ascends less rapidly and minimal breath is lost during each staccato sound. In the words of the Italianate school's important maxim, handed down from teacher to teacher, 'The release is the new breath' - the rebound from the staccato release results in silent and effortless inhalation. For most purposes in singing the listener should not hear the singer breathing - a noisy breather has poor technique.

Although much of the instrument is invisible, information about it may be gleaned by both singers and teachers *via* wall mirrors, by watching overall posture, the position of the chest and rib cage, and the movement of the antero-lateral

abdominal musculature during the breath cycle. Use may also be made of relevant the scientific information and equipment described in Chapter three above.¹⁶

Miller has well said that,

The foundation of singing is concerned with the ability to manage the breath so that airflow precisely matches the needs of the vibrating larynx in its response to articulatory demands (1996, 57).

Unfortunately, even in 1999 we still find imagery such as the following,

Sing like you are an ice cream sundae with hot fudge dripping down the sides...Pretend your diaphragm is an ice rink in front of your body, and every time you begin to sing, a little angel comes down from heaven and lands on the rink, twirling as fast as she can - make your voice sound like that (Dunn, 1999, 24).

Vibrato

Vibrato is from the Latin verb *vibrare* (to vibrate). With respect to various instruments it has also been called, *tremelo*, *Bebung*, *flattement*, and close shake. It was introduced for expressive purposes in vocal, string and wind performance. The traditional definition of vibrato is the one coined by Seashore:

A good vibrato is a pulsation of pitch, usually accompanied by synchronous pulsations of loudness and timbre, of such extent and rate as to give a pleasing flexibility, tenderness, and richness to the tone (1938, 33).

Another is:

Vibrato is repeated, voluntary rhythmical pulsation of tone used by vocalists, string instrumentalists and wind instrumentalists to impart an expressive effect in music (Weait and Shea, 1978, 56).

¹⁶ See further, Bunch, Meribeth, *A Handbook of the Singing Voice*, London: Meribeth Dayme (formerly Bunch), 2000. This is a shortened version of *Dynamics of the Singing Voice*, (1982) Wien New York: Springer-Verlag, 1995.

The term vibrato, in its current meaning, was not universally established until well into the nineteenth century, although many seventeenth, eighteenth and nineteenth theorists recognized its use for expressive purposes. Hearsay suggests that vibrato was denounced in medieval times and adversely compared with 'a horse's neighings'. Fillebrown offers this definition:

The *vibrato* is a rhythmic pulsation of the voice. It often appears in untrained voices, in others it appears during the process of cultivation. Some have thought it the perfection of sympathetic quality; others esteem it as a fault (1911, 80).

The phenomenon of vibrato contributes to perception of pitch, intensity, and timbre of the vocal sound. The term is used somewhat loosely to describe several kinds of pitch fluctuation that may occur during a sustained tone. Currently, singers employ it as a constituent of pleasing tone. However to the well-informed singer/teacher vibrato is a quality of a healthy, trained voice. Unfortunately, beginning singers, whose main ideas of singing may have come from pop and rock, are suspicious of vibrato. It has to be pointed out to them that as well as being healthy it is the domain of western classical singing. It is generally accepted that a 'straight tone' or 'white voice' in singing has no vibrato and sounds 'dead'.¹⁷

The average pitch vibrato rate is between five and seven times a second and the average extent of pitch variation is a semitone.¹⁸ According to Titze (1994, 291) an acceptable rate of vibrato is 4.5 to 6.5 Hz, (not all authorities agree on this) and plus or minus 0.5 semitone.¹⁹ The vibrato extent increases with intensity, for example, in crescendo. Its frequency sometimes increases with pitch and the excitement level of the singer. Nervousness and tension may give a bleating sound in the 6-8Hz range. Davis (1998, 31) suggests that 'Vibrato extent decreases when negotiating runs so that pitch is more precise'. Lack of energy or fatigue resulting

¹⁷ For essays and scientific experiments concerning vibrato see further Dejonckere, P. H., Minoru Hirano, and Johan Sundberg, *Vibrato*, San Diego: Singular Publishing, 1995.

¹⁸ See further, Sundberg, Johan, *The Science of the Singing Voice*, Dekalb, Illinois: Northern Illinois University Press, 1987.

¹⁹ See further, Miller, Richard, *The Structure of Singing*, London and New York: Schirmer Books, 1986.

in wobble may be in the 2-4Hz range. Physical fitness seems to aid acceptable vibrato. Caruso had a vibrato frequency near 7.0. Pavarotti's average vibrato rate is near 5.5Hz. Earlier researchers proposed that vibrato was an aerodynamic action. They based this research on fluoroscopic pictures, which recorded synchronized diaphragmatic vibrations and the vibrato rate of singers thus tested. Others proposed that vibrato was instigated by movement of the jaw or larynx. In fact, this movement is often observable in some singers. Another suggestion is that the rate of vibrato depends on neural impulses which change the tension on the vocal folds. The latest research has not shown exactly how vibrato is created, but the suggestion is that it involves combined laryngeal and respiratory action. Titze offers this suggestion,

The origin of vibrato is not well understood, but some evidence is beginning to show that vocal vibrato may be a stabilized physiologic tremor in the laryngeal muscles (Rampage & Shipp, 1987). It is conceivable, though speculative at this point, that a natural vocal vibrato can be cultivated from a 4 to 6 physiologic tremor in the cricoids and thyroarytenoid muscles (1994, 289).

Faults allied with vibrato are too fast or too slow a rate; too great a pitch variation, and irregularity of the vibrato. Many teachers suggest that faulty breath management, from different causes, contributes to this. Very often lack of vocal and physical exercise can be at the root of some of the problems, particularly in older singers who may develop the tremolo or wobble (when two distinct pitches are heard).

Whereas some singing teachers advocate the use of vibrato as a question of taste, Miller is convinced of its presence as the manifestation of healthy and efficient singing. Certainly without vibrato there is no legato, as we shall see in the next chapter. Marguerite d'Alvarez said, 'A voice without vibrato would be cold and dead, expressionless. There must be this pulsating quality in the tone, which carries waves of feeling on it' (1920, 15).

The last verse of a limerick by Titze will serve as a cautionary conclusion to this section:

On stage please follow this motto:
 'Know the bounds of vocal vibrato!'
 A voice with a wobble
 Like a limp or a hobble
 Can draw a rotten tomato (1994, 304)

The agility factor

Fast moving musical passages - *fioriture*, *Rouladen*, rapid melismas, embellishment, and trill - are not decorations on the surface of vocal technique. The same umbilical-epigastric control that permits the precise onset, the staccato and the execution of velocity or coloratura passages also produces the sustained line in singing (Miller, 1986, 40).

Although agility and sustained sound (*sostenuto*) are opposing poles of vocal accomplishment, both are achieved by the same muscles. Agility exercises should be part of every singer's daily practice whatever the vocal type - bass or soprano. Without the ability to accomplish running passages and melismas easily, *sostenuto* passages will be difficult to produce with comfort.

Agility is as important for the male singer as for the female. His repertoire demands fast runs, skips and trills and the male voice is capable of this aspect of technique. In running passages of whatever type the same vibrancy must be present as in sustained passages. Caruso, who was a great exponent of practising with a closed mouth, had this to say, 'Vocal work with closed mouth is also a powerful auxiliary to vocal agility'. (1909, 59). He believed that vocalizing with the mouth shut improved breathing and rested the voice. Perhaps Caruso was benefiting from humming as recommended by Lamperti: 'It is the rain-bow bridge connecting voice and breath' (1957, 105). On the other hand, any form of vocalizing uses the vocal mechanism, so rest would not be possible. However, humming is often taught by speech language therapists to the vocal user displaying excess tension when phonating. It is also used in singing exercises to improve resonance - the tongue remains in its at rest posture, as the singer discovers *impostazione della voce* (desirable vocal timbre through sensation) by the humming, for example, prefixing [m] before a simple vocalize.

Resonance

Resonance can be defined as echoing; resounding; continuing to sound; causing reinforcement or prolongation of sound, especially by reflection or vibration of other bodies; filling the place with sound. To the singer it means carrying power and the quickest way to achieve it is through the understanding of the singing mechanism and acoustics.

One does not need a 'big' voice to fill a concert hall or opera house. Simply stated, resonance is the relationship of the changing size and shape of the resonating cavities together with the surface characteristics which create the energy in the vocal spectrum which the ear perceives as vowels. The vibrating folds, on their own, make a minimal buzzing sound. Richard Miller sheds light on the nature of resonance as he describes vowel modification:

The principle of vowel modification is that the initial vowel undergoes some migration as the scale ascends, by modifying toward a near neighbour. The laryngeal configuration changes for each vowel, and there should be a corresponding change in the shape of the resonator track. When the filtering aspects of the vocal tract are in tune with laryngeal configurations, the vowel is properly 'tracked.' Vowel modification in the ascending scale permits vowel tracking and balancing of the formants (areas of acoustic strength), thereby avoiding either 'open' or heavily 'covered' singing (1993, 41).

Titze has this to say,

The vocal tract acts like a megaphone, or a pair of cupped hands, in 'magnifying' the sound that is produced at the glottis and radiated at the mouth. Although there is no actual power amplification (the vocal tract is a passive system that can only dissipate energy), certain select frequencies are given a boost over others...Vocal intensity is boosted dramatically when F_0 is high and a harmonic coincides *exactly* with a formant. This is called *formant tuning*. It can be exploited in singing and theatre speech...(1994, 230, 231).

It has often been said by singers and teachers that resonance in the nasal passages and sinuses contribute to good singing. Experiments have been undertaken to investigate this claim. Austin describes how one experimenter filled the nasal passages of several singers with cotton wool; another filled the nasal

passages with cotton wool and the sinuses with water. Their singing, with nasal passages blocked and unblocked, was assessed both by acoustical analysis and perceptual judgement. There was no difference. However Austin reminds us that the well-known pedagogue Cornelius Reid insisted that the roots of teaching nasal resonance go back to Curtis who believed the use of nasal resonance relieved the vocal folds from excessive fatigue.²⁰ The conflict seems to arise because of localized sensations felt by some singers in the upper face, 'the mask'. These sympathetic vibrations may be confused with nasality. Tosi, in the eighteenth century admonished:

Let the Master attend with great Care to the Voice of the Scholar, which, whether it be *di Petto*, or *di Testa*, should always come forth neat and clear, without passing thro' the Nose, or being choaked in the Throat; which are two the most horrible Defects in a Singer, and past all Remedy if once grown into a Habit (1723, 22).

Sensations vary from singer to singer and cannot be imposed from one to the other. Concerning factors of resonation, most singers are so used to a feeling of sympathetic vibration that they are not aware of it. This is not a problem, so long as it is not the result of faulty technique, but is rather a matter of specific sensations, particular to the individual which cannot be transferred to others. Too much reliance on internal sensations suggested by the teacher, particularly concerning resonance ('placement') can be dangerous and harmful. It is an acoustically known fact that tone cannot be 'placed'. Once a soundly based technique has been established then singers develop their own reliable and consistent internal and external sensations. There are many 'placement howlers' which can lead to tension and malfunction: imagine a grapefruit or pear in your throat in order to keep it open; place the tone on the bridge of the nose; up and over; in the dome (of what?); at the back of the throat; in the head; on top of Nefertiti's hat - the list is endless.

Ultimately singers will discover their own personal imagery for the sensations they feel when their singing is right. They will become aware that if it

²⁰ See further, Austin, Stephen F., 'Nasal Resonance - Fact or Fiction?' *Journal of Singing*, LVII no.2, November/December, 2000, 33-41.

does not feel good, then it will not sound or look good. It is helpful for singers and teachers to use the International Phonetic Alphabet (IPA). Here model words are given in four languages.

Laryngeal factors

The position that the larynx is asked to assume for singing has a direct effect on the resultant vocal sound. *Gola aperta* or 'open throat' is the aim to be achieved here and atrocities as to how to produce *gola aperta* have been, and still are, extremely common. As can readily be verified by any observant listener, a high laryngeal position produces distinct vocal timbres, for example, an elevated head and chin thought to free the larynx for singing shortens the vocal tract because the distance between the glottis and the larynx and velum is reduced. This diminishes the depth of timbre resulting in a 'brighter, thinner' sound. A depressed laryngeal position produces other qualities of sound. The lowest possible position of the larynx is achieved with the full-blown yawn, during which action the vocal tract is elongated (the distance from the vocal folds to the velum is increased). These spreading sensations are mistakenly thought to 'open the throat'. But the effect is one of 'darkening' the sound. John Potter (1998, 53) claims that the low larynx position is the norm for classical singers; rather, it is a product of the German school. It is vocally unhealthy as the larynx is being depressed unnaturally, causing tension and pressure on the vocal folds. The stabilized and free to move larynx, which is neither raised nor depressed, results in a free and balanced sound distinct from the first two.

Supraglottic considerations

The resonator tube extends from the vocal folds to the lips and is largely made up of the buccopharyngeal chamber. This chamber serves as a filter to the laryngeally generated sound. Many theories exist regarding the 'placement' of vocal sound. The cover on the dust jacket of the classic textbook, still popular in many conservatories in the United Kingdom, announces that this book aims 'to provide singers and teachers with a scientifically exact basis from which to work directly and objectively on the physical elements responsible for the production of the

singing voice' (Husler and Rodd-Marling, 1983). Unfortunately, the authors then proceed to ask the singer to 'place' the tone: at the edges of the upper or lower front teeth; on the upper edge of the breastbone, at the top of the head; in the forehead; at the back of the neck or down the back of the throat. They argue that, "'Placing", therefore, is not a fiction, as science would have it' (ibid, 69). The authors then attempt to justify these manoeuvres physiologically. Inasmuch as sound cannot be 'placed', the acousticians inform us, these theories can only be based on sensations of sympathetic vibration that accompany singing. Since not everybody feels the same sensations this approach is unsound and can be vocally damaging.

Kantner and West describe how resonance patterns produce recognizable vowels:

All vowels, per se, have resonance but each vowel has its own distinct pattern of resonance that is the result of the number, frequencies and energy distribution of the overtones that are present. It is by means of these differences in the overall patterns of resonance that we are able to hear and discriminate one vowel from another. These changing resonance patterns are produced by altering shape and size of the discharging orifice' (cited, Miller, 1986, 50).

The shape and flexibility of the vocal tract allows for extreme acoustic variation. These extremes have to be balanced. For example, acoustic distortion of the vowel will result if the tongue is held low and flat when the acoustic shaping of the vowel is determined by a quite different tongue position. Similarly, acoustic distortion occurs if the tongue is held high when it ought to be low.²¹

It is very difficult to teach the student to feel the resonance in this place or that. Even though the sound may be well produced the singer does not necessarily feel it the same way as the teacher. Davis is very keen to point out that the auditor/teacher determines which is the student's best sound, and then encourages the student to remember how it felt and sounded so that it can be rehearsed and remembered. The reason for external guidance is that singers hear the sound

²¹ See illustration, Appendix 4, no. 12.

through bone conduction and all that that involves and therefore does not get the true sound. Most teachers would accept this point. However, he goes on to say,

...the air conduction of sound through the eustachian tube, and the air conduction of sound as it exits the mouth arrive at the ear as vastly different stimuli. For example, as the pitch of the voice goes higher, the upper partials of the voice become more directional and less heard at the ear while bone conduction remains the same. The result is confusion. Generally, the better your voice sounds to you, the worse it sounds to us (1998, 36).

I find the last sentence highly suspect and Davis does not give any evidence for this statement.²²

Articulation is mainly by the lips, tongue and soft palate. Vowels are shaped mainly in the vocal tract, the lips also being used to some extent. The vocal tract is fashioned to change shape in order to assist in the formation of vowels and consonants; it remains flexible during communication of language both in singing and speaking. The pharynx acts mainly as resonator. The tongue plays a major role in articulation. It is a proportionately large muscle connected to the styloid process on the temporal bone, mandible, hyoid bone, and soft palate.²³ Distortion or tension of the tongue results in very many problems for the singer. Lip movement changes the shape of the anterior part of the vocal tract. Tense lips adversely affect the muscles of the upper pharynx. Exaggerated, protruding lips pull the back of the pharynx forward diminishing the space needed for resonance. Miller argues against the maintenance of a basic posture and lists some pedagogical fallacies which are still promulgated, for example:

1. maintaining a low jaw position,
2. trumpeting the lips (holding the lips in the [u] position),
3. squaring the lips and jaw,
4. pulling down on the platysma muscle,
5. retaining the smile position,
6. maintaining an elevation of the upper lip,

²² See further, Zielinski, Shirley and Paul Kiesgen, 'To Listen or Not To Listen', *Journal of Singing*, LIX no.2, November/December 2002, 133-138.

²³ See illustration, Appendix 4, no. 13.

7. covering the upper teeth with the upper lip (pulling downward on the upper lip), and

8. covering the lower teeth with the lower lip.

It is the vowel, the consonant, the tessitura, and the intensity level that determine the degree of mouth aperture (mandibular movement) (2000, 83).

The human voice is the only musical instrument that can communicate words. It is an added technical feat for the singer. If the words are not clearly articulated then the performance is a poor one, and the audience is dissatisfied. Again Freed has found us an apt inaccurate instruction, 'Enunciate with the lungs' (2000, 9).

Tetrazzini instructs the singer to have 'the sides [of the tongue] slightly raised so as to form a slight furrow in it' (1909, 18). She goes on to say, 'in ascending the scale the furrow in the tongue increases as we come to the higher notes' (ibid, 18). Many top grade contemporary performers demonstrate this technique. Unfortunately, contrary to popular belief, in this technique the back of the tongue becomes restricted because the bulk of the muscle thus displaced constricts the throat. Another well established performer goes to the lengths of curling the apex of the tongue upwards towards the roof of the palate for assistance in reaching the high C's, which makes for a slightly more strident sound than he achieved in the nineties. Doubtless the reasoning is to remove tongue bulk from the resonating pharynx, but I suspect the stretching of the muscle adds tension, hence the stridency heard. In earlier days Domingo said,

But I do have a basic problem which I discovered only lately. Sometimes I am recording...feeling really fantastic...and all of a sudden the voice starts to sound, from one phrase to another, different... In many notes my tongue goes up. I do that very often, not constantly. You can hear the changes of sound in the microphone...Now...I want to put a mirror near my music stand, and I want to control that tone until the tongue will go down by itself automatically. (cited, Hines, 1988, 105).

Marilyn Horne says of the raised tongue, 'That's terrible...You've got to get a groove in it.' (Hines, 1988, 136). And, of course, a groove which runs from front

to back of the tongue distorts the muscle and adds tension to its movement. Harry Evan Williams foolishly suggests that we might

Imagine two pieces of whip cord. Tie the ends together. Place the knot immediately under the upper lip directly beneath the center bone of the nose, run the strings straight back for an inch, then up over the cheek bones, then down around the uvula, thence down the large cords inside the neck. At a point in the center between the shoulders the cords would split in order to let one set go down the back and the other towards the chest, meeting again under the arm-pits, thence down the short ribs, thence down and joining in another knot slightly at the back of the pelvic bone (cited, Brower, 1920, 127).²⁴

This is, of course, bad imagery used for a completely wrong purpose. The teacher well educated in how the pharynx and larynx function has no use for this imagery. Nonetheless, there is good imagery as stated by Miller: 'the breath of expectation', 'the breath of joyous anticipation', 'the breath of quiet excitation' (1996, 80). Ultimately singers will discover their own personal imagery for the sensations they feel when their singing is right. They will become aware that if it does not feel good, then it will not sound or look good.

Unfortunately, handed down from one teacher to the next, is the opposing view made by Tetrzzini in 1909: 'As one great singer expresses it: "You should have the jaw of an imbecile when emitting a tone"' (1909, 25). And yet another howler comes from a teacher eighty- two years later,

It is perhaps helpful to visualize a washing line, situated on the level of the cheekbones and continuing round each side of the head to the jaw hinges. The placing of consonants remain on that level, but all vowels hang totally loosely from the cheekbones/washing line, like clothes blowing in the wind, with absolutely no tension or holding of the chin (Sutton, 1992, 35, 36).

Formants and the singer's formant

'Good singing tone' displays the 'ring', 'ping', 'focus' which is the result of desirable formant balancing. Miller defines this, 'as the tracking of the laryngeally

produced vowel by the resonator tube' (1986). A formant is an area of strong acoustic energy (resonance) which determines the distinctive individuality of a vowel.²⁵ As we have seen above various tonal ideals exist yet they all demand certain qualities required for *crème de la crème* vocalism. The practised ear of the teacher determines when these qualities are present and they show up clearly on a spectrogram. The spectrogram reveals the fundamental frequency and its integral harmonic multiples as they occur within time.²⁶ In sung pitch the concentration of acoustic energy is not found at the fundamental frequency. Most acoustic energy is found above the frequency of pitch perceived by the listener. This distribution of energy is explained by the overtone series or harmonic series. The lowest note is known as the fundamental sound and the rest are the harmonics, upper partials or overtones; first, second, third, fourth and fifth formants. The first formant is an important region of acoustic strength. It is found at the bottom part of the spectrum, in the area of 500 Hz - 800 Hz in the male voice depending upon category. This formant is responsible for 'depth' in the voice or the dark (*oscuro*) of the historical *chiaroscuro* (light/dark) - the balanced sound required of the professional singer.

A second important formant which can be seen in the spectrum is the one which defines vowel sounds. It produces a diagonal pattern characteristic of vowel definition from the lateral (front) to the rounded (back) vowels. Each vowel has its own specific configuration in the laryngeal tract and its own set of distinguishing formants. These formants result from the harmonic partials in the spectrum which determine the characteristic quality of each vowel. These partials are located between the first and third formants. The third formant produces the *chiaro* (light) tone of the *chiaroscuro*. The correct balance of the acoustic energy in the upper, middle, and lower parts of the spectrum plus vibrato constitute the resonance balance of the classically trained voice.

²⁴ Richard Miller has the most telling example of all resonatory imagery, used in a lesson he once observed and which he demonstrates in public lectures, the full text being found in his *On the Art of Singing*, 1996, 41-43.

²⁵ See further, Chapter 3 above.

²⁶ See further, Watson, Colin, 'Higher partial enhancement and glottal source manipulation by the trained opera singer', *Voice*, I no. 1, 1992, 1-18.

The singer's formant is an area of particular acoustical strength which allows the voice to be heard, for example, over and above the orchestra.²⁷ In the male voice this can be found at around 2,500-3,200 Hz and, usually, up to 4,000 in the soprano voice, but can reach up to 4000 Hz or 5000 Hz.²⁸

Sostenuto

As mentioned earlier, singers will be without freedom in their singing unless they are proficient in executing the onset, the brief phrase, the release, can sing with agility, and have precise fluid articulation - there will be a build up of tension and strain particularly when singing sustained phrases. The best way to achieve the long sustained phrase is to progressively lengthen the breath-pacing exercises of short duration mentioned earlier. As proficiency increases, range should extend, and slower tempos may be introduced.

Vocal problems also may result if the technically insecure singer is given songs and arias of a sustained character, coupled with a high-lying tessitura too early. Hence the great need for a wide knowledge of repertoire. Singing great sweeping lines is not a possibility if the torso collapses every once in a while.

Vowel modification

Vowel modification or *voce coperta* is sometimes called 'cover' or register unification. *Voce coperta* is the result of consciously modifying the vowel throughout the ascending scale in order to 'disguise' or eliminate the register changes. The aim is for an equalized scale without any perceptible timbre changes or vowel distortion. The vowel, although modified, remains recognizable in all but the most extreme points of the upper range. Conscious controlled adjustments are not made directly to the larynx or vocal tract. The adjustments are made unconsciously in *voce coperta* by virtue of modification of the vowels according to the demands made by the trained ear. *Voce coperta* is a process of subtle adjustments (*aggiustimento*).

²⁷ See further, Sundberg, Johan, *The Science of the Singing Voice*, Dekalb, Illinois: 1987.

²⁸ Hz is a unit of measurement of cycles per second as in 440 Hz (today's concert pitch); named after the physicist Gustav Hertz.

In both female and male instruments, most vowel modification in ascending pitch is in the direction of lateral to rounded vowel. For example, by opening the mouth (lowering the mandible) for ascending pitch, [i] approaches [ɪ]; [ɑ] takes on more of the character of [ɔ], although it may also be necessary to go in the opposite direction with certain voices so that [u] in those cases will actually approach [ʊ]. In some cases, modification may need to go even further. It is wrong to assume that there is one point in the mounting scale applicable to all singers. By opening the mouth with the ascent of pitch, vowel modification becomes a natural process. It also avoids the presence of shrillness on the higher pitches.

Vowel modification is also related to resonance balance. *Chiaroscuro* (light-dark) timbre describes the well-balanced resonance throughout the range of the singing voice. In *chiaroscuro* the harmonic partials throughout the spectrum have a balanced relationship. The skilful singer achieves *chiaroscuro* from the lowest to the highest note of the scale. Although the physiological and acoustical explanation appears complicated, the technical performance of *coperta* is easy to explain, but the execution takes practice.

When Marilyn Horne was asked by Jerome Hines about the sensation she feels when changing registers to achieve higher pitch she says, 'It's like an hourglass, or its like two pyramids, one upside down.' To which Hines added, 'Their tips touching one another' (Hines, 1998, 139). This again is imagery, useful perhaps to Marilyn Horne and, amazingly understood by Hines, but of very little use to any overhearing student.

Singing teachers approach the teaching of how to handle vowel modification and registration events in many different ways, some extremely complicated. For example:

In my fifth article, I attempted to explain exactly what the *open* and *closed* tones really were. I showed that *open tones* were high extensions of a *lower* Column of Resonance, and the *closed tones* were *lower* extensions of a higher Column. I also introduced my Descriptive Vocal Symbols, which had been developed to

communicate with the student more effectively...(de Peyer, 1994, 15)

Rules for modifying vowels:

1. Vocal tract lengthening and shortening. 'Formant frequencies decrease uniformly as the length of the vocal tract increases' (Titze, 1994, 165).
2. Lip rounding again lengthens vocal tract, lowering formant frequencies. Lip spreading increases the formant frequencies.

Rules for vowel formation:

1. Front half of vocal tract (mouth) is narrowed, lowers first formant and raises second formant.
2. Back half (pharynx) is narrowed, raises first formant and lowers second formant.

Dynamic control and messa di voce

Without contrasting dynamics singing lacks expression, and interest. An important part of good singing is the control of these dynamics. A singer who appears to be unimaginative in the use of dynamics may be unable, technically and not unimagatively, to facilitate their control.

To increase loudness or intensity an increase in subglottal pressure is necessary. 'The loudness of sounds corresponds to their acoustic intensity and for phonation is primarily dependent upon subglottal pressure' (Sherer, 1995, 87). Sundberg states:

When the abdominal muscles contract after inspiration, the air pressure in the lungs, or the subglottic pressure is raised. How much this pressure is raised depends on the degree of contraction and also on the resistance against airflow provided by the glottis...[the] main tool for raising loudness of phonation is an increase in subglottic pressure (1987, 35).

The same tonal quality should be present and maintained both when singing loudly and softly. The airflow rate, although it must still be used efficiently, will be lower

when singing softly. Singing *pianissimo* is one of the last aspects of singing technique to be learnt.

To encourage the wide use of contrasting dynamics the classic device is *mesa di voce*. Here the student begins to sing at *pianissimo* level with a sustained tone, crescendoing to *fortissimo*, then decrescendoing back to *pianissimo*. The same tonal quality should be apparent throughout. It should be possible to achieve the whole dynamic range of *mesa di voce* on every pitch within the entire vocal range. *Messa di voce* is usually the last aspect of technique to be practised, as it requires the ultimate in technical stability. Its importance can hardly be over-estimated. It is the supreme test of a coordinated technique.

Hearing, feeling and seeing the voice

To a great extent singers have to teach themselves, and teachers have to try to develop this independence. I have found that the three following self-help principles are useful. First, being able to *hear* the differences between differently produced sounds; secondly, *feeling* the differences between the differently produced sounds; and thirdly, *seeing* what is happening physically as the result of the various technical manoeuvres.

It is sometimes said that one cannot hear oneself sing. Of course, the sound one hears is not exactly the same as that heard by the audience or teacher - the singer is hearing the sound externally through the meatus (the passage leading from the ear-drum to the outer ear cartilage) and internally through the sympathetic vibrations of bone conduction. But this does not mean that singers cannot assess the quality of their singing. Singers are aware that they can produce different qualities of sound (timbre) at every pitch level - some, although possibly acceptable, more beautiful than others - and can easily distinguish between the different kinds of singing sound they can make at different pitches. It is the responsibility of the teacher to determine the sound preferable. The preferred sound is determined by the way the sound is produced. Teachers must be careful not to be influenced by their own personal tonal ideals or taste, and young singers in particular must avoid the temptation to imitate their favourite performer. When

the voice is functioning healthily, efficiently and freely then that is the unique voice belonging to that individual and no one else.

Singers constantly monitor the effect of breath management, vowel modification and all other aspects of technique in order to achieve their most beautiful, efficiently produced sound. Students must be trained to listen carefully and critically and must not be easily satisfied. Teachers must regularly have students assess and reassess the sound being produced. (Maybe teachers of singing should be called teachers of hearing rather than teachers of singing). This hearing should always be linked with how it looks and feels when the sound is right. Hearing, feeling and seeing the acceptable sound will become a measure for consistency in production of the preferred sound and will be stored in the memory, so that this production of beautiful sound, with practice, will become habitual. Nonetheless, the critical ear of the singing teacher is always essential for the singer, hence the need for all professional singers to find time in their busy schedules for check-up singing lessons. This in no way detracts from the statement that singers should have a sound enough understanding of technique to enable them to be their own teacher. If the singing sounds good, then it feels good and looks good. If it feels good, the chances are that it sounds and looks good. If it looks good then it more than likely sounds good and feels good.

Singers need to be able to repeat exactly, each time they sing, the healthy and efficient manoeuvres for breath co-ordination, laryngeal activity, and factors of resonance which produce their most beautiful timbre. Learning how it feels when the sound is correctly produced is indispensable, especially when linked with hearing and seeing.

An overall feeling of lightness, poise, balance, energy and joy results from correct bodily alignment that also can be seen with mirrors or the video recording. Correct breath management can be monitored by how it feels when the abdominal musculature releases at the end of the phrase in readiness for the air to refill the lungs, the freedom from any tension in the lower abdominal region while singing, the feeling of release in the head and neck area and many other factors concerned with posture and breathing. It becomes more and more clear how much anatomical and physiological knowledge is required of the teacher.

The singing voice is sometimes called the 'hidden' instrument. However, much of it can be seen and, therefore, carefully monitored following soundly based instruction. Singers can only see inside their larynx with the aid of medical instrumentation such as fiberoptics and stroboscopy. However, wonderful vocal improvements have been made when singers, under medical supervision, make subtle adjustments on seeing the inside of their larynx by video-stroboscopy. Of course, such immediate successes cannot be predicted or guaranteed. Problems singers may have had for years can suddenly disappear when they see what is going on inside their larynx and, of course they remember and reproduce this improved sound by how it feels or sounds when they are back on stage or in the studio.

However, the larynx is not the only part of the instrument, and much of the rest is visible. We can easily detect incorrect posture, head movement, external musculature of the neck, sternum, clavicles, rib cage and abdomen. We can observe correct and incorrect movement of the mouth, tongue, lips, external facial musculature and even the position of the larynx itself - if we know what we are looking for. Indeed, as we saw in Chapter one, vocal pedagogues relied exclusively upon such visible features before the advent of instruments capable of revealing internal visualization. Wall mirrors, freestanding mirrors, hand mirrors, and hand mirrors used together with other mirrors for side-views are indispensable for the singer. The apex of the tongue, the various positions of the mouth, lips and tongue can be carefully monitored, together with facial muscles, laryngeal position and general posture.

Of course the singer has to *look* into the mirror, and many are often reluctant to do this and find it quite difficult at first. Gentle encouragement is sometimes necessary on the part of the teacher. A similar reaction is often found when using video recorders or cassette recorders. Singers protest, 'I can't bear to watch myself. I can't stand listening to my own voice'.

Singers often imagine and believe that what they are doing is correct, but teachers are seeing something quite different. External posture and physical behaviour on stage needs to be learnt, and what better way of checking this than by the mirror or video recording. Feeling and imagination are not enough; singers

need to be aware of how their body language and their facial expressions really appear.

Computer software, which includes spectrographic analysis of the singing voice, has several beneficial uses for singers. For example spectrograms are graphic representations of the harmonic components of sung phonation. Spectral analysis, among other things, records whether or not vibrato is present, the resonance factor, *chiaroscuro*, clean vowel definition, balanced onset and release, and the presence of unwanted 'noise'. It does not replace the musician's trained ear.

The three proprioceptive stratagems, hearing, feeling and seeing the voice are extremely reliable checkpoints, given the parameters of healthy and efficient vocal function based on a systematic technique, and they should be included in all vocal pedagogy. If it sounds good, then it feels and looks good. If it feels good, then it looks and sounds good. If it looks good, then it feels and sounds good.

Warming up and cooling down the voice

'The ability to do subtle tasks with great strength and agility, without forcing, on a very consistent basis' is the definition of athletics suggested by William Riley, New York singing teacher and consultant to Lennox Hill's Department of Otolaryngology (no citation available). He goes on to say that this definition may just as readily be applied to singing.

Schneider, Saxon, and Dennehy make clear that, 'The exercise workout or session for athletic or vocal performance should consist of a progressive regime: warm-up, a conditioning phase, and a cooling down' (1995, 69).

The singer is the ultimate vocal athlete. Athletes warm up before an event, they do not suddenly throw themselves into strenuous activity. Most of them begin by performing stretching exercises that encourage gentle movement of the muscles. They may then slowly jog or run. But they never over exert themselves immediately before a race or sporting event. So, surely, this kind of approach must also be beneficial for the singer-athlete. Warming-up helps to strengthen and condition muscles, thus enabling the voice to function more efficiently. Cooling-down following athletic activity is equally important.

Warming-up and cooling-down are appropriate for all types of singing voice including, classical, musical theatre, jazz, blues, rock, popular, night club, gospel, and also for any other professional voice user.

It seems sensible that singers should go through a series of exercises to warm-up the voice first thing in the morning and to cool-down the voice following each intensive practice session, rehearsal or performance. Warm-ups not only help the voice function more efficiently, but also can encourage a feeling of relaxation and focus before a performance.

Whatever the type of singing session, it is advisable that it should consist of a progressive, organized regime. This should include warming-up, the main session or conditioning phase itself, which may be: technical work, learning new repertoire, a singing lesson, rehearsal or performance, and cooling-down.

The function of the *warm-up* is to increase blood flow to the working muscles and increase the muscle temperature, decrease the number of injuries to the working muscles, and increase muscle tissue temperature...The warm-up activity should gradually intensify to prepare the muscles for the higher intensity conditioning phase (Heywood, V.H., cited, Saxon and Schneider, 1995, 69).

Martin, Robinson, Wiegman and Aulick studied the cardio-respiratory responses of subjects with and without warm-up prior to an exercise workout:

Compared to the no-warm-up group, the prior warm-up group reached higher oxygen consumption because warm-up facilitates oxygen's ability to break away from hemoglobin. Consequently, muscles with a higher temperature would increase the muscle enzyme activity and enhance the distribution of blood to the muscle, thereby dissipating the added heat within the muscle (1975, 69).

It might be suggested that warming-up should be part of a systematic technique taught to the singer by the teacher. It should not be a case of dashing through a random selection of vocal exercises, but should become an established routine and may take between twenty to thirty minutes every day, maybe less time for the singer in peak condition. Having this consistent routine monitors the condition of the voice and may give a feeling of physical and psychological

security. Warming-up should be part of the every day routine not only of the singer, but also of the teacher, the choral director and every other professional voice user, whether speaker or singer. Of course, responsible choral directors will ensure that their choristers are warmed-up at rehearsal before launching into their repertoire, and before performance.

It is advisable for singers to warm up before their singing lesson; otherwise much of the precious lesson time is wasted if the teacher has to work through the warm up routine before introducing technical work. The teacher would be well advised to review the student's warm up routine from time to time, checking on correct performance and the order of the exercises. And, of course, beginner singers will have to learn and be able to accomplish, healthily and efficiently, the exercises set before the routine can be established.

Individual programmes may be devised to suit particular needs. Light physical exercises for relaxation, energizing, stretching and releasing the whole body, should precede any vocalization. Exercises to be included are those which give a feeling of freedom and elasticity throughout the body, for example: gently running on the spot; swinging the arms in a windmill fashion; dropping the head and arms downwards and then returning slowly to an upright position; slow shoulder shrugs; gentle head turning from side to side on a level plane and slow forward head rolling. Strenuous exercise should not be attempted immediately before singing.

It is recommended to begin vocal warm ups in medium vocal range with a graduated approach. Nothing drastic should be attempted. A suggested programme is as follows:

1. Gentle, brief onsets and offsets (attack and release).
2. Humming in a medium range.
3. Nasal and vowel sequences.
4. Exercises to encourage a flexible tongue and jaw.
5. Agility exercises, beginning with descending patterns in medium range and gradually adding ascending patterns with range extension.

A few minutes rest is advisable before proceeding.

6. Vowel definition and modification.
7. Sostenuto.
8. Registration and *passaggi* exercises.
9. Rapid, extensive range arpeggios and rapidly moving scale passages.²⁹

In the warm ups specific technical problematic aspects are not dealt with; these come later in the daily practice (conditioning) sessions. It is proposed that singers should beware of too long periods of warming up, particularly before performance.

Although the benefits of vocal warm ups have long been understood, the benefits of cooling down have not been appreciated or widely used for as long. The same exercises should be used, but at a lower intensity level. Low intensity activity allows the blood to return to the heart, which staves off blood pooling in the extremities. It also prevents dizziness, the possibility of fainting, and it shortens the recovery time. Singers may apply these thoughts to their vocalizing.

At about midday on performance days (assuming an evening performance) after a leisurely morning, it is beneficial to work through the complete daily warm up routine, including the few gentle physical exercises of the type suggested above. This session should, perhaps, last for about twenty minutes with short rests between each exercise. After this singing is best avoided until just before performance time when a few scales or arpeggios may be sung. Performers need to find a quiet place where they can warm up on their own without the distraction of others who may have idiosyncratic ways of preparing for performance. To use opening songs of a show or recital as a substitute for warming up beforehand is unacceptable, unprofessional, potentially disastrous, and not what the audience has paid to hear. Beginning a heavy singing role, either in rehearsal or performance without warming up is vocally unhealthy. To go straight from the stage to a post

²⁹ See further, Titze, Ingo, 'The Five Best Vocal Warm-Up Exercises,' *Journal of Singing*, LVII no. 3, January/February 2001, 51-52.

performance party with one's friends and fans may be good public relations, but hard on an uncooled down voice.

It is recommended that all singers have a reliable, consistent routine for warming up and cooling down. The benefits in terms of healthy and efficient vocal function and for a confident feeling of security will very soon be seen to be enormous.

The Spoken Voice

Although singers spend a great amount of time and money on their singing voices, very few seriously consider training for their speaking voices. Very often the singer's vocal problem shows up in the voice clinic as a speaking voice problem. We have one larynx for both singing and speaking. However, there are significant differences between speaking and classical singing. Singing has requirements greater than those required for speech. The classical singer does not engage in sung speech. There additional factors, among them: wide-ranging pitch; longer duration of the vowel; specific breath management adjustments, energy and control; and resonance balance. Some singers, in spoken dialogue in opera, speak with their singing voice technique - they continue to 'sing' as they speak.

Ideally, the spoken voice should match the singing voice.³⁰ Work on the spoken voice is neglected in many singing studios, with the result that many singers have speaking voices which are misused and often sound like a completely different person. This can be particularly jarring, both for the singer's and the listener's ear when an opera singer is required to alternate between song and speech. There can be no question that a well-trained and well-used speaking voice will contribute to longevity of the singing voice. Conversely, says speech therapist Morton Cooper, 'Misuse and abuse of the speaking voice may negatively influence and affect, if not destroy, the singing voice' (Hines, 1998, 48). But we have already begun to stray into the territory of performance, and to this subject we now turn.

³⁰ See further, Boone, Daniel, *Is Your Voice Telling on You?* London: Whurr Publishers Ltd., 1997. Although mainly addressed to spoken voice users, the content is appropriate for all levels of singers.

5

PERFORMANCE

In this chapter we shall consider the preparation for performance, the occasion of performance, and the evaluation of performance. We shall see that in addition to specifically musical matters, psychological, philosophical and other considerations come into view. Our case is that it is well that vocal pedagogues clearly understand how this happens and that they achieve a degree of mastery of the several contributory fields.

The preparation for performance

It goes without saying that performances are of many kinds, and take place in a variety of venues. In this chapter, without in any way denying the importance of performing at auditions and on the radio and television, we shall concentrate on the fields of opera and the concert platform.¹ Following some general remarks on each of these spheres we shall turn to some more specific matters which bear directly upon the preparation of literature for performance.

General considerations

Opera

Opera singers have to immerse themselves deeply, not only in the study of the character they will be playing, but also in the context from which the opera's

plot emerges. It is suggested that as with the song, the spoken text should be read and re-read, and that singers should be familiar with the character to be played. The dramatic conflicts and their causes in the text ought to be considered. Scenes can be imagined and various questions asked: What is the national and domestic background? Are the actions of the character obvious or subtle? What is the character's physique, posture, manner? How does he or she behave? What would be the facial expressions in given situations? Acting is the art of reacting to an underlying cause in the plot. It is useful to improvise the role, using mime - actions often speak louder than words.

Opera often requires singers to act and react in a language not their own. In this case it is helpful to take the score and write a word-for-word translation. It is important that what is being sung comes across as a language, not isolated as syllables.² Singers have to realize dramatic possibilities when they explore vocally such theatrical devices as whispered lines, voices played in disguise, or even pauses in recitative for maximum dramatic impact. In *Così fan Tutti*, for example, one of the biggest difficulties is found in the *secco* recitatives, which must move at normal speech tempo and sound like ordinary conversation.³

Opera singers have used the term 'third line' to refer to the unwritten interpretative line devised by the singer to accompany the text and music of an opera. Helfgot with Beeman clearly explain the meaning:

The third line is, briefly, the interpretative line a singer adds to the other two lines in an operatic score. The first line is the text of the libretto. The second is the musical line. The third line is one the *singer* adds and consists of the body movement, eye focus, facial expression, and inflection that make the score leap off the page and into reality on the stage. The third line is the singers' considered conclusion as performers - their visual, physical, mental, and vocal answer to the tasks set for them by the composer and librettist (1996, 6).

¹ For suggestions concerning auditions, radio and television, see Appendix 3b.

² More will be said regarding languages below.

³ See further, Goldovsky, Boris and Arthur Schoep, *Bringing soprano arias to life*, London: Shelwing Ltd., 2002.

In opera (as in oratorio) we find that there are three kinds of recitative: *recitativo secco* (dry recitative), *recitativo accompagnato* or *arioso* (accompanied recitative), and *recitative drammatico* (dramatic recitative, sometimes a combination of *secco* and *accompagnato*). Clarity of diction is a basic requirement in all recitative and particularly in *recitative secco*.⁴ Recitative is generally concerned either with story telling, explaining ideas or describing feelings. The singer has a little more freedom in expressing the meaning of the text than in a song or aria. For example there can be more variation in speed, contrast in dynamics and diction. The story needs to be moved on; the thoughts and feelings need to be expressed as if they had been thought of just at that moment, not rehearsed and memorized - of course, this aspect of immediacy applies to songs and arias too.

Once it was not required of an opera singer to act. Nowadays they are encouraged to be as convincing as actors in straight theatre. And they have to think of the composer's intentions and interpret those intentions in performance. Acting allows communication, creating a reality on stage.

There are two main schools of acting, firstly, classical or technical, (mainly Western European) and method acting (sometimes linked with America) which is based on the teaching of Stanislavski. To these must be wedded the specialized training of actor-singers.⁵ While much could be written on acting methods it will suffice here to note that opera singers will need to understand stage directions; appreciate the importance of relevant gestures as contributing to characterization; be at ease with stage properties; and be able to project from recumbent positions. They should also be able to speak lines as convincingly as they sing them - and do so in character.⁶

Becoming accustomed to one's costume is an important part of the opera singer's preparation. Particular attention is required to period and historical

⁴ See further, Greene Harry Plunket, *Interpretation in Song*, London: Macmillan, 1914.

⁵ See further, Wilson, Glenn D., *Psychology for Performing Artists*, 2nd ed., London: Whurr Publishers Ltd., 2002. An excellent summary of the acting schools is given here. See also, Benedetti, Jean, *Stanislavski: An Introduction*, London: Methuen, 1990. Stanislavski, Constantin, *Building a Character*, London: Methuen, 1989; *Creating a Role*, London: Methuen, 1990; *An Actor Prepares*, London: Methuen, 1992. After Stanislavski's training of actors and singers came the renowned teachers, Walter Felsenstein, Boris Goldovsky and Wesley Balk.

⁶ See further, Berry, Cecily, *The Actor and His Text*, London: Virgin, 1993, and Rodenburg, Patsy, *The Right to Speak*, London: Methuen, 1992.

costume, for example, winged collars or corsets, to ensure that these garments allow rib movement and not instigate clavicular breathing or restrict the breathing mechanism. Technical exercises may be practised to counteract this and rehearsal in costume as soon as possible is advisable. High collars should not be so high that they make singers throw their heads back. Hats, wigs (must be securely fitted so that singers are not spending time balancing them and getting tension in the neck in the process). Moustaches and beards must be well stuck on; additional weight on head may restrict movement and facial hair can alter points of tension. To ensure the comfort of the performer early practice in costume is advised. Similarly, shoes with high heels or platforms will alter body balance and alignment, so work will be needed to maintain correct postural alignment. Masks may constrict the head and neck leading to inaudibility and reduced sight lines; it is best to redesign them where possible, and rehearse wearing the masks as soon as possible.

Concert platform

Traditionally a recital included: Italian or English song of the seventeenth and/or eighteenth century; German *lieder*; French *mélodies*; folk or contemporary English song. Sometimes opera arias were inserted. However, the introductory 'old' pieces may be fraught with dangers for the inexperienced singer, for many are technically difficult, particularly for insertion at the beginning of the programme when the singer is still warming up, and settling in with the audience.

There is much to be said for opening a recital with two or three shorter songs, rather than something longer; audiences may be rather more restless at the beginning of a recital, and some may intrude as latecomers, thereby disturbing a longer work. As first impressions count, it is recommended that the first songs be chosen carefully and executed with great finesse. A more modern longer piece with opportunity to warm up, emotionally as well as technically, might also be a sensible choice at the beginning of the recital. Opera arias are often best programmed sparingly, especially in the case of a beginning performer.

In order to provide adequate resting time for the singer, three groups might be sung in the first half of the concert and two groups in the second. The first half of a recital is usually longer than the second half, and the first group to be sung

may be selected with warming-up in mind. It is advisable to have the total length of singing time not more than an hour and a quarter. Less music is better than too much - in performance, tempo usually goes slower than in rehearsal - the accompanist usually begins a little slower for safety reasons and the singer tends to put more expression into the actual performance.

The second group may be in a different language from the first, and in a different style. Something with an obbligato instrument would add colour to the programme, for example, Schubert's *Der Hirt auf dem Felsen* or something less familiar. An operatic aria could come in the third group as a climax to the first half of the programme. After the interval, a lighter approach might be suitable and a change of language. Traditionally the last group was in English and often consisted of national folk songs or sometimes-comedic songs. For encores the pieces should be light and familiar. If too many encores are demanded and the singer is becoming tired then a quiet song will usually put an end to the proceedings.

The accompanist traditionally writes the programme notes, but there is a tendency, nowadays, for singers to introduce their own music; this helps to create a bond between the audience and singer. It is recommended that these introductions be rehearsed and presented so that the voice carries to the back of the auditorium. Also to be considered are printed programme notes and song translations. These are expensive to produce and the rustling of programmes can be as disturbing to the singer as to the audience. An anecdote tells of Toscanini ordering programme notes of gold silk to cut down on noise, however, they rustled. For programme notes to be read easily some house lights need to be on; this nullifies the theatrical atmosphere. In general, it is suggested that each half of the concert begin in lighter mood and moderate tempo gradually building up to a dramatic and emotional climax, and finally the recital ending with a complete change of mood, plus humour, thus leaving the audience in a bright and cheerful mood, and the singer feeling good about the performance. There is much to be said for balance, proportion and variety.

The success of a song may depend on where it is placed in the programme. Chronology is not important. Singers would do well to plan carefully contrasts between styles, tempi, keys, rhythmic patterns in piano accompaniment, mood, and

expression. Pauses between songs in song cycles should be varied and therefore planned in advance.

It follows from what has just been said that in devising a programme the likely performance impact and entertainment value should be borne in mind. Singers are well advised to avoid the performance of songs that contain technical or interpretative pitfalls that they have yet to overcome. Singers have their own preferences - those songs they think they perform well, that have been successful in previous recitals. On the other hand, some of this repertoire may display habitual faults because of over familiarity - these will need correcting. It may be advisable to learn something new. Again, a programme consisting of difficult numbers piled on difficult numbers will exhaust the singer by interval time. It is recommended that easier songs follow difficult ones, not only in view of the vocal health of the singer but also in order to avoid audience exhaustion. 'Avant-garde' scores may appear strange at first, but are often relatively simple to perform. A debut recital should show the singer at his or her best - a future career might hang on this. In the big cities, unfortunately, critics may dash from one recital to another, staying for only a small part of the performance. Something unfamiliar or new may be inserted in the programme to attract the critic's attention, although some critics like to hear familiar music in order to be able to compare one performer with another. Conscientious critics will decide what they wish to hear, and time their appearance accordingly.

It is highly desirable that the singer who performs recitals regularly has a large repertoire of programmes, which do not become routine, but are constantly revised, with new material added. The experienced singer may present a one-language recital and sometimes a one-composer recital - sometimes with the composer acting as accompanist.

At the present time themed programmes are in vogue: Shakespearean poems; Goethe settings; an evening of Romantic songs; a single language programme; twentieth century; songs for children or about children. The Song Makers Almanac has many varied themed programmes, for example, 'Night and Day'.

A discussion may be had about choosing the material according to the likely audience. However, it takes a lot of experience to judge the psychology of an audience. Should the programme be different for large cities, for example, London, where self-selected audiences are more likely than in the provinces where a diverse audience needs to be attracted? Generally, and unfortunately, popular appeal wins the day. This perpetuates the problem of what to present. Emmons comments on the song recital saying:

It is imperative to recognize that the song recital, however aesthetic and refined it may be, is meant to be enjoyed. The prime purpose of a recital cannot be educational, although its educational value is an inherent factor (1979, 21-22).

It is quite a different situation if the audience is made up of interested persons, for example, managers, agents, personal and press representatives.

Plunket Greene recommends ten essentials in programme planning:

1. Variety of Language.
2. Change of Composer (except in the case of a group).
3. Chronological Order.
4. Change of Key.
5. Change of Time.
6. Classification of the Song.
7. Style of Technique.
8. Change of *Tempo* or Pace.
9. *Crescendo* and *Diminuendo* of Emotion.
10. Atmosphere and Mood (1914, 223-224).⁷

In a song recital there is a degree of intimacy, therefore a minimum of extra musical gesture must communicate subtle and evanescent emotions expressed in the poems and music. Piano parts are often as expressive as the vocal line and may convey in the music more essential elements immediately than the words in the text. Smaller halls are frequently the best setting, though some singers with larger than life personalities can cope with larger venues. Vocal chamber music adds an extra dimension to the programme.

⁷ See further, Emmons, Shirlee and Stanley Sonntag, *The Art of the Song Recital*, New York: Schirmer Books, 1979.

Student recitals may be used as a measure of their progress and comparison with their peers. Ideally, such recitals might be held twice a year. They give experience of performing and afford opportunities of experiencing, and constructively handling, performance anxiety.

Concerts range from more informal ventures in the voice teacher's studio, through festival finales to large-scale concerts with full orchestra. Increasingly fashionable are holistic concerts in which the art song is integrated with other performing arts, notably speech, dance, painting and fragrance. Venues are equally varied: from stately homes, villages and church halls to major theatres. All of which throws into relief the wisdom of Oren Brown's words: 'In presenting a song, nothing should be taken for granted either sociologically, psychologically, or physically' (1996, 135).⁸

Specific matters

It is a prominent argument of this work that sound vocal technique is the foundation for successful performance. Not, indeed, that technique is all. Bunch has rightly remarked,

To elevate technique into an art there must be co-ordination that allows freedom in performance, spontaneity that springs from confidence and knowledge and lastly personal magnetism to attract the listeners (1995, 139).⁹

Accordingly, we now turn our attention to some further specific matters that bear upon preparation for performance. Our first concern must be with the songs or arias to be sung.

Learning songs

There are two main approaches to learning songs which apply to both children and adults: immersion and phrase-by-phrase, and a combination of the two

⁸ See Appendix 3a.

- the whole/part/whole (WPW).¹⁰ In the WPW approach the piece or a significant proportion is experienced first before any details are worked out. The piece may be sung through or a recording listened to, the point being to create a starting point and to show the context of the piece. The second stage is the 'part' of WPW where smaller sections are rehearsed. Finally the whole piece is sung through, bringing together the details rehearsed, as they relate to the work as a whole, and thus giving a sense of accomplishment.

There is much to be said for treating every song as a whole. Plunket Greene is adamant about this:

The composer wrote it as a whole; the singer must sing it as a whole. A musical phrase is made up of a number of notes. The singer does not think of those notes separately; he thinks of the phrase as a whole, and the song is to the phrase what the phrase is to the note. The mind absorbs the picture, and the detail fits into the perspective of itself (1914, 13).

It is a good idea to encourage singers to discover how the music is constructed. What is the form of the piece? What is the most obvious rhythmic characteristic of the piece? How would you describe the overall feel or rhythmic flow, Where is the point of arrival for this phrase? How does the composer set the text to portray its meaning? Lehmann suggests that the text comes before the tone; get 'an entire picture' of the text before singing it (1924, 204). Garcia agrees with her,

The pupil must read the words of the piece again and again till each finest shadow of meaning has been mastered...The accent of truth apparent in the voice when speaking naturally is the basis of expression in singing (1894, 59).

And in the historic Italian school of singing the advice to singers, as we saw, was '*cantare come parlare*', 'sing as you speak'.

⁹ See further, Bunch, Meribeth, *Dynamics of the Singing Voice*, 3rd edn. Wien: Springer-Verlag, 1995 and Hemsley, Thomas, *Singing and Imagination*, Oxford: Oxford University Press, 1998.

¹⁰ See further, Klinger, Rita; Patricia Shehan Campbell, and Thomas Goolsby, 'Approaches to Children's Song Acquisition: Immersion and Phrase-by-Phrase', *Journal of Research in Music Education*, XLVI, no. 1, 1998, 24-34.

Repetition of pitches and rhythms is meaningless without the study of the score (including, among other things, dynamics) and text. It is better to have thinking musicians taking an active part in their music making. Repeating phrases over and over again without correct dynamics, phrasing, or intonation breeds poor and incorrect performance habits, which have to be undone if the detail is added later.¹¹

The inherent repetitiveness of a strophic song clearly poses problems for the singer. As Whitton comments, 'It is undoubtedly a limiting, even limited form, and without a great interpreter...it can readily lead to boredom' (1984, 8). On the other hand, paradoxically, the very repetitiveness of strophic song gives scope for variety and complexity, in the interplay between a poem that progresses, with music that repeats. We hear the textual meaning in each poetic strophe, which is then connected retrospectively with each repeat of the music. There must be some legitimate artistic reason for varying the mood, dynamics and tempi when the music is repetitive.

Textual and musical dissonance occurs when the text does not match what the music expresses. This has sometimes been considered a weakness in the composition, but some would say that it highlights that particular part of the text. Much has been written on this aspect of interpretation.¹²

Each note must have its vowel sustained for its entire length, no matter how short it is, particularly on unstressed syllables and notes which are not on the beat, especially if a song or phrase begins on an anacrusis, otherwise the legato line is lost. Silences and rests are music and, therefore, sung through silently to maintain movement, pace and rhythm. Careful breathing adds to both musical and literary effect, and dynamics should be scaled carefully within the song as a whole.

¹¹ See further, Davis, Richard, *A Beginning Singer's Guide*, Lanham, Maryland: Scarecrow Press, Inc., 1998.

¹² See further, Eliade, Mircea, *The Myth of the Eternal Return*, trans., Trask, Willard R., Princeton, NJ: Princeton University Press, 1954; Feil, Arnold, *Franz Schubert: die schöne Müllerin, Winterreise*, trans., Sherwin, Ann C., Portland, Oregon: Amadeus Press, 1988; Stein, Jack, *Poem and Music in the German Lied from Gluck to Hugo Wolf*, Cambridge, MA: Harvard University Press, 1971 and Whitton, Kenneth, *Lieder: An Introduction to German Song*, London: Julia Macrae Books, 1984.

Miller usefully cautions us against the following:

scooping into important words (beginning the note slightly under pitch), with gradual arrival at the tonal center
 starting the vocal tone straight and then letting it 'wiggle' with vibrato
 introducing rubato where the composer never intended
 detailing and underscoring each long note in every musical phrase
 negating the vocal legato on notes of short duration
 removing vibrancy on notes of short duration
 changing the dynamic intensity of each note in a phrase
 using exaggerated 'vocal coloration' and 'word painting' to the detriment of vocal timbre (1999, 16).

Practice is vital.¹³ It is sensible to have a flexible approach to practising, where methods can be adapted according to the individual piece. There is much to be said for working hard in short bursts. Problems requiring extensive work may be isolated: the same stumbling occurs in the same place if only run-throughs are practised. Analytical bar by bar scrutiny without voice, including phrasing, notation and text is helpful. Necessary beats should be marked. It is well in speaking the text aloud, to encourage awareness of percussive and legato elements in the syllables as well as in the overall meaning. Singers would be well advised to learn the accompaniment thoroughly. A certain caution is advisable when publishers supply accompaniment tapes with the score; such tapes may become crutches, contributing to imitation and a 'quick-fix' approach.

As with the beginning of the song, the ending is immensely important. According to Plunket Greene it should be executed without recourse to sentimental tricks such as a *rallentando* plus *portamento*. He goes on to make helpful suggestions, for example the use of the *Kunst-pause* (artistic pause); emphasis on the first consonant of the final word and the appropriate use of anti-climax (1914, 178).

¹³ See further, Sloboda, John A., Jane W. Davidson, Michael J. A. Howe, and Derek G. Moore, 'The role of practice in the development of performing musicians', *British Journal of Psychology*, LXXXVII Pt.2, May 1996, 287-309.

With a view to classifying a song and visualizing its context, Davis suggests grouping questions, 'who, what, where, when and why' (1998, 62). Here is a selection of questions that might be asked:

1. Who are you? (age, status, gender). What do I want? How am I going to get it? Why am I here? To whom am I speaking?
2. What are you saying in the song?
3. Where are you when you sing it? Where is the listener?
4. When does the song occur? What happened before the song and what follows?
5. Why are you singing the song? What use is it in the programme or opera?

We next have to consider the choice of repertoire for student singers. The treasure chest of vocal music contains folksong, ballad, art song, lied, recitative, aria, arioso, scena, song cycle, opera, comic opera, grand opera, music drama, operetta, hymn, sacred solo, anthem, cantata, oratorio, mass, passion. How can the teacher go about choosing repertoire for students, when the material available is so extensive? The following are a few suggestions:

1. Select music of good quality.¹⁴
2. Select teachable music - generally speaking good quality music will be teachable
3. Select music appropriate to the context: age appropriate, with cultural setting suitability; appropriate range and tessitura and level of difficulty; respect for the student's taste at first; choice of song that singer enjoys singing.

Rhythm

Rhythm is the most basic element in music, yet probably the most difficult to teach or define. Songs may be sung with the correct time values but they do not sound right if the feeling of rhythmic progression is absent.

Music do I hear?

Ha! ha! keep time: - How sour sweet music is,

¹⁴ See below on aesthetics

When time is broke, and no proportion kept! (Shakespeare,
Richard II).

This feeling of rhythmic progression comes from within the singer; it is not just feeling the beat. There are ways to help: as a phrase or section is practised, the singer may stop for at least a beat on the first pulse of every bar (stops can be determined in different places in shorter or longer bars); all music before the strong beat must be felt as leading to it. These suggestions may be practised several times and then the music can be sung again with no stops, but with the singer still leading in the mind towards those strong pulses. This will help to encourage rhythmic progression. Plunket Greene again gives timely advice:

...wherever breath has to be taken *in spite of* a phrase - *i.e.* where no pause is marked - *the time-value must be taken from the note that is left, not the note that is approached*; it is the place you land on, not the place you take off from, which matters (1914, 62).

Languages

Much of the great song literature is composed to poems in a language other than English. In order to communicate it is highly desirable that singers completely understand the text. It is recommended that every student, therefore, study foreign languages and not just take a course in foreign diction. Communication is not just words, but an exchange of thoughts or ideas between the singer and the audience, an impossibility if students do not understand the language in which they are singing. Some teachers will not assign songs in a foreign language that has not been studied by the student.

It is advisable for the singer to have at least a reading knowledge of the language in which the song or aria is written. This will give the singer a fuller understanding of the text.¹⁵ When faced with Russian text a mastery of the Cyrillic

¹⁵ See further, Marshall, Madeleine, *The Singer's Manual of English Diction*, New York: Schirmer Books, 1953; Colorni, Evelina, *Singers' Italian*, New York: Schirmer Books, 1970; Cox, Richard G., *The Singer's Manual of German and French Diction*, New York: Schirmer Books, 1970 and *Singing in English*, Lawton, Oklahoma: American Choral Directors Association, 1990; Wall, Joan, *International Phonetic Alphabet*, Dallas, Texas: Pst... Inc., 1989; Wall, Joan, Robert Caldwell, Tracy Gavilanes, and Sheila Allen, *Diction for Singers*, Dallas, Texas: Pst... Inc., 1990; Piatak, Jean and Regina Avrashov, *Russian Songs and Arias*, Dallas, Texas: Pst... Inc., 1991; Ed. McGee, Timothy J., with , A.G. Rigg and David N. Klausner,

alphabet is essential. English diction is often distorted and the singing of the words is difficult to understand; singers give the impression that they are singing with their mouths full of marbles, and vowels are often distorted. Clear singing aids freedom of technique and vocal efficiency.

Working with a vocal coach/répétiteur helps the singer to understand foreign texts and improve pronunciation. The vocal coach and répétiteur do not teach singing as such. Their function is to ensure that singers move on from the répétiteur to the conductor and orchestra secure in what they are doing. The répétiteur guides the singer towards accuracy coupled with interpretation, good intonation, a pleasing sound and a high standard of diction. There is a very thin dividing line here between teaching technique and performance. Répétiteurs' keyboard skills (different from the concert pianist, to whom the score is sacrosanct) allow them to create the atmosphere of the orchestra and take liberties with the score in order to produce dramatic effects.

Diction

Diction is not the same thing as articulation. Articulation is the physical process of making the sounds or as the *Oxford English Dictionary* defines it, 'the adjustments and movements of the speech organs involved in pronouncing a particular sound'. The same dictionary defines an articulator as 'an organ in the mouth or throat which when moved, helps to give speech sounds their characteristic acoustic properties'. Considerations for the performer are:

1. Being understood by the listener.

Good diction should not be sacrificed for beauty of tone, or production of high pitches. A vowel held on a long note should retain its integrity. Diphthongs and triphthongs should be analysed carefully so that the correct vowel receives the stress and importance required. A composer sometimes creates a musical phrase with the important word sung on a high pitch - for example, for emphasis or dramatic effect. Incorrect pronunciation must not be allowed to destroy this effect.

The listener may misunderstand colloquial or local pronunciations, except, of course, in songs of ethnic or folk idiom. Dictionaries that incorporate IPA to spell the sounds are invaluable.

2. Deciphering the difference between the way a word is spelt and the way it is pronounced.

When performers are not fully familiar with a language, reliance on a phonetic approach can have its dangers. For instance, a performer may not realize that in English the word *palm* has a silent *l*, or that the final consonant of the German word *und* is pronounced as a *t*.¹⁶

3. Recognizing that there are more than five or six vowels.

All vowel sounds in whatever language should be identified and practised separately, in order to maintain their unique qualities. Vowel modification helps to eliminate the 'problems' of high notes without sacrificing the identity of the vowel.¹⁷

4. Knowing when and which form of consonant to use.

Consonants are classed as Voiced, where the consonant is produced by sounding the consonant vocally, for example [*b*] as in 'baby'; or Voiceless, where the consonant resonates by the air passing through the vocal folds, for example, [*p*] as in 'puppy'.

Singers are always being admonished to 'sing on the vowels and shorten the consonants'. One might gather from this that consonants are the enemy. Of course, badly enunciated consonants will destroy, not only the understanding of the text, but the whole musical line. Many teachers, for example, Garcia, Marchesi, Vennard and Miller have written about using consonants to improve sound quality, to induce sensations and for resonance balancing.¹⁸

¹⁶ See further, De'Ath, Leslie, 'The Hazards of Reflex: Caveats of a Voice Coach', *Journal of Singing*, LIX, no. 1, November/December 2002, 155-159.

¹⁷ See further, Chapter 4 above on vowel modification.

¹⁸ See further, Garcia, M. A., *A Complete treatise on the Art of Singing, Part II*, trans. and edit. Paschke, New York: Da Capo Press, 1847, 1872, 11-17; Marchesi, *Theoretical and Practical Vocal Method*, New York: Dover, 1970; Vennard, W., *Singing: the Mechanism and the Technic*.

5. Determining the correct pronunciation of a word.

The student would be well advised to have a good knowledge of IPA and have easy access to a dictionary with a good pronunciation guide. IPA has been considered to be a basic tool of vocal pedagogy, but there are perils when employed in music. There can be discrepancy in symbols between authors, author preference or pronunciation discrepancies; some language sounds, for various linguistic reasons, do not correspond easily to the finite symbols set by IPA; some composers set texts from outside the Western tradition, for example, native American, Maori, Zulu, and European folk traditions. Some compositions involving extended vocal techniques or a non-language text employ IPA symbols for sound colours, for example, *Stimming* by Stockhausen.

However, the delivery of sung text depends also on grammatical and syntactic structure of a language, the 'feel' or 'taste' of words, the spoken intonation and stress patterns, what a word implies as well signifies and not only good enunciation and diction.¹⁹ A strict adherence to IPA transcription can lead the interpretation to sounding stilted and mechanical. One of the greatest strengths of IPA is that it compels students to look at what actually is happening when they speak or sing.

Improvement in diction does not come about by study of IPA alone. The symbols must be understood for what they are and related to the actual sounds of the language to be performed. Individual coaching in the language is still vital to be given to the student by the teacher. If the song is to be sung in a standard version of the language IPA is helpful. It is also useful for the acquisition of a regional accent and in an historical approach to diction, for example, Britten's *A Ceremony of Carols*, or Debussy's *Trois Chansons de François Villon*.

New York: Carl Fischer, 1968, 160-190; Miller, Richard, *The Structure of Singing*, New York: Schirmer Books, 1986, 79-107, 293-296.

¹⁹ See further, Phillips, Gerald L., 'Diction: A Rhapsody', *Journal of Singing*, LVIII no. 5, May/June, 2002, 405-409.

Care must also be taken that extra vowels and consonants are not added, for example, 'that love of mine' should not have a schwa [ə] added to the end of 'mine'.²⁰

Again, the lyrics of Gilbert and Sullivan may help singers to learn how to deliver dialogue. Some critics and commentators have a disdain for Gilbert and Sullivan and some singers think that their work is beneath them. But it encourages expert technique and provides much practice in delivering clear articulation.

It thus follows that for effective training of the student in optimal communication of a song it is imperative that voice teachers have complete knowledge of the movements of the muscles in the vocal tract required for the phonological system of the language being sung.

Phrasing

Lamperti said of phrasing, 'Phrasing is simply musical punctuation, which frequently coincides with that of the words' (1905, 31).

Legato is essential to achieve a beautiful and smooth phrase or musical line. Originally the words legato and portamento were used interchangeably. We recall that Lamperti's theory was that

portamento signifies the gentle carrying-over (not dragging over) of one tone to another. In doing so, the second tone is barely audibly anticipated at the end of the first (1905, 21).

Today portamento means the consciously perceived gliding between neighbouring notes of more than a major second.

Miller has this to say: 'Perhaps the most expressive device is the *legato*, which permits continuous sound that then can be sculpted into eloquent phrases' (1996, 108). The term *legato* stems from the Italian verb *legare* meaning to 'bind' or 'tie'. In singing *legato* is the result of binding one sound to the next. It is the progression of uninterrupted sound. Continuous vocal sound will move the phrase and gives it its direction. If the singer changes from sound with vibrato to a non-

²⁰ See further, Leenman, Tracy E., 'A Closer Look at DICTION', *Chorus V* no.1 August 1997, 34-35, 42.

vibrato sound then both legato and the flow of the phrase is interrupted. If a false assumption is made that it is artistically desirable to customize each syllable or word in order to enhance it, minutely detailed and conscious shaping of a phrase can be counterproductive, in effect destroying the contour of the phrase. Some singers treat syllables and words like long swags of sausage links, or *Liederwurst*, thus, we hear notes not phrases, and words not sentences. In this preoccupation with detail we find the singer making a *messa di voce* on every syllable, in the hope of being artistic, but this results in mannerisms and musical naivety. Of course, there has to be dynamic variation throughout the song or aria. Diction will be clearer when constant *legato* and quickly occurring consonants allow a flowing singing line:

A combination of subtleties of rhythm and dynamics such as I have been describing creates that priceless musical ingredient which is called 'line'. A phrase must not be just a series of tones, they must be related to each other organically. The whole must be greater than the sum of all its parts. Each tone must seem to grow out of the preceding tone... (Vennard, no date, 28).

Bernac believes that...'it is the musical line, above all, that the singer must serve and respect' (1976, 4). He, seemingly, interchanges the term *legato* with *cantabile* (ibid, 4). A phrase must always have a main word and with it a musical highpoint; it can be found by reading the text aloud emphasizing what is important and giving less importance to the surrounding words.

Often it is appropriate to use the device staccato. Staccato being the opposite of legato, Kirkland suggests that

Departure from the *legato* is not to be made merely for the sake of departure, nor for the sake of singing a passage in another mode, but to emphasize the emotion being expressed at the moment (1916, 126).

Tone colour

In catechetical style Garcia asks:

Q. Is the great variety of timbres of any practical use?

A. They are the physiognomy of the voice. They tell the involuntary emotions which affect us, and assume a more clear or covered tint, a timbre more brilliant or more obscure, according to the nature of those feelings (1894, 45).

In Plunket Greene's opinion 'Tone-colour is part of the physical *response of the voice to the play of feeling...*' (1914, 19). He goes on to describe two kinds of tone-colour; one being *Atmospheric* where the tone-colour reflects the mood and *Dramatic* where the voice reflects a character or characters (ibid, 20). It may thus be propounded that the text itself determines tone colour, a technical manipulation of the tone is unnecessary.

Aural skills, theory, composition and listening

In my opinion a thorough understanding of the elements of music is essential for the full and satisfying performance of a piece. Theory is a very practical matter, inextricably linked to the performance and composition of music. The complex system of symbols concerned with pitch, rhythm, dynamics, meter, tempo and form is a form of shorthand to express the core elements of music, a vital element in the learning process of the musician.

Aural and sight singing abilities vary with the individual and are often a 'cross to be borne'. Ottman suggests that

An important attribute of the accomplished musician is the ability to 'hear mentally', that is, to know how a given piece of music sounds without recourse to an instrument. Sight singing, together with ear training and other studies in musicianship, helps develop this attribute (1986, xvii).²¹

Eric Taylor goes so far as to say, 'What is being trained or tested is the musical intelligence' (n.d., 5).

The best teachers treat weaknesses, and to this end the first essential is fear elimination by confidence-building and regular experience of sight singing. A little

aural training and sight-singing practice done regularly goes a long way. Students, usually grow accustomed to the practice, lose self-consciousness and keep their aural senses alert.

Memorization

Memorization was not practised in the early part of the nineteenth century, but in the twentieth century Taylor says, 'In studying a song the first thing to do is to try and memorize it, so that the mind will not be taxed with trying to recall the words and melody' (1914, 26). Many methods to aid memorization may be gleaned in literature written for the pianist, who traditionally has inordinate quantities of scores to remember.²² Among these are the repetition and the subsequent linking of phrases. Singers have an advantage over pianists in that they can learn to associate text with musical phrases. It should, however, be noted that there is much still to be learned about the process of memorization. As Richard Davis has said, 'For text memory we will rely upon processes as yet undefined by neuropsychologists, and some research data from the field of information processing' (1998, 83-84).

Hempel sees point in having the score with her in a concert performance in order to avoid the constant posture of hands clasped as though in supplication:

This attitude becomes somewhat harrowing when held for a whole program. For myself I prefer to hold in hand a small book containing the words of my songs, for it seems to be more graceful...I never refer to this book...but I shall always carry it, no matter what the critics may say (cited, Brower, 1920, 209).

A singer engaged to appear with an orchestra is generally allowed very little rehearsal time, therefore it is highly desirable that the singer is well rehearsed and has mastered the programme. In opera, at the first rehearsal, which is usually musical without staging, singers are expected to know their part from memory and sing it with musical understanding.

²¹ See further, Telfer, Nancy, *Successful Sight Singing*, San Diego: Neil A. Kjos, 1992; Harris, Paul and Richard Crozier, *The Music Teacher's Companion*, London: ABRSM, 2000.

²² See further, as one example written for pianists, Matthay, T., *Memorizing and Playing from Memory*, London: Oxford University Press, 1926; Wood, David, *How Children Think and Learn*, (Chapter 3) Oxford: Blackwell, 1988.

Communication

Singing is communication and communication needs someone on the receiving end. It is desirable that all singing be animated in the sense of 'Listen to this, just listen to this'. Plunket Greene believed that to be successful singers must have magnetism:

Magnetism is the indefinable *something* which passes from singer to audience and audience to singer alike; for the audience which the singer holds in the hollow of his hand, holds him as surely in its own (1914, 9).

and that magnetism is a 'pure gift' (ibid, 8). Eighty years on and Bunch replaces the word 'magnetism' with 'dynamism',

Dynamism comes from true mental receptivity and sensitivity. Being dynamic implies a body that moves gracefully; a technique that is ever changing within the framework of vocal production and emotion; awareness of what one's senses are conveying from within and without; a sense of unconfined space and certain imperfections which add uniqueness to the performance (1995, 147).

In every song the singer is portraying a character who is singing the particular words of the song. There are at least three possible relationships which may fit the situation and the text of each particular song. Firstly, the song may be sung to another character (real and onstage or imagined); secondly, the song may be sung to oneself; thirdly the song may be sung to the audience.

Singing to a character onstage is easier than singing to an imagined one; we are used to communicating to another human being in real life. Singing to an imagined character is rather more difficult as an illusion has to be created with which to respond dynamically. One helpful suggestion in creating this illusion is by rehearsing with a live partner who gradually moves out of view of the singer, thus weaning the singer off the permanent presence.

Singing to oneself is as valid an act as talking to oneself, as when we try to gain control over circumstances in order to cope. In spoken theatre these occasions

are sometimes called monologues or soliloquies. Usually we talk to ourselves silently, so how do we sing to ourselves out loud? One needs to create a mirror image of oneself, or a twin and literally sing to 'myself'. This twin fulfils all the reactions of the real or imaginary partner on stage and can be placed anywhere in the theatre where the impact of performance needs to be directed. Stanislavski had this to say as he was coaching a young singer,

'For whom are you singing this?'

'I am talking to myself. I am alone.'

'You mean you are reflecting? When a man reflects, when he communes with himself, there is nonetheless a kind of dialogue; it is as though his mind is conversing with his heart. Consequently, the monologue will contain hesitancy, doubts, firmness, weakness, and stubbornness - all the elements of an ordinary argument' (1975, 32).

Michaela, in the third act of Bizet's *Carmen* singing 'Je dis que rien ne m'épouvante' is an example of a character singing to herself.

When singing to the audience one very rarely makes eye contact, the singer is singing to the imaginary partner once again. An exception, for example, is in the finale of Mozart's *Don Giovanni* when, after the demise of the Don, the remaining members of the cast sing directly to the audience the moral of the opera. But, usually, the audience plays the role of spectator not partner.

When we sing to someone, imaginary or otherwise we give our singing a focus. The song has a destination or a place to go and this sensation will help bring the song to life.

But, we are obliged at all times to consider the audience. Words have to be transmitted with both colour and conviction. The singer has to convincingly 'tell a story'. To make the words come alive the singer may be encouraged to look for the adverbs and adjectives and give emphasis to these to help create colourful and suggestive descriptions. Correct stress and shading must be given to individual syllables in words. Length and stress of consonants and timbre used in vowel formation are important in giving effective colouration to the words. Looking at the words which fall on accented beats of the bar may help to give a clue to what the composer intended. The poem itself when read or spoken gives the most

important lead; surely, this is what initially inspired the composer of the music. Some singers advocate the use of body language; others find facial expression, eye contact and overall presentation sufficient.

In communicating emotion singers have to use their imagination to enter into the mood of the specific feeling to be portrayed. Singers do not need to be murderers to understand hatred; to commit suicide in order to interpret *suicidio*. These emotions must thought about and then recalled in an impassive (to the performer) way, such as being brought into voice and face subtleties. Beyond this singers must not lose themselves.

The vexed question of gesture in concert performances falls now to be considered. How may we deal with the problem of gesture? Should the singer make a full gesture, a half gesture or none at all? In the half gesture it appears that singers feel they must do something and then embarrassedly and awkwardly make pathetic arm movements, very often with rigid muscles. Wildly gesticulating hands are equally to be avoided. Hands can, however, be placed in a relaxed position at the sides of the body. Balk describes the singer's common predicament,

Instinctively, many singers sense the necessity of sustaining the gestural energy in response to the music. At the same time they do not have the freedom to commit themselves to a full gestural statement. So they end up with a sustained half-gesture which defeats both purposes and neither makes a statement or structures it...Many singers, having been told that the only good gesture is no gesture, allow the hands to hang freely at their sides (1977, 128-129).

60 -70% of our communication is non-verbal, hence the desire to gesture. The purist argues that gesture detracts from the sound - the sound is all. Balk opines that 'the rejection of gesturing is in obvious defiance of life itself, which is filled with gestures of every size, description, and destination' (1985, 261). Some would suggest being selective. According to Stanislavski,

Unrestrained movements, natural though they may be to the actor himself, only blur the design of his part, make his performance unclear, monotonous and uncontrolled (1962, 69-70).

Regarding choice of gesture: *cielo* seems always to gesture up to heaven; *amore* has the hands placed over the heart. Stanislavski was aware of this; it still continues today,

Operatic performers quickly learn how to make a declaration of love, to suffer, to meditate, to die, and so on, and they repeat these forms in all analogous situations that they happen to be in. These are well known rubber-stamp effects. Nearly everyone knows them all, and speaks of them scornfully, yet...a majority of singers go right on using them (1975, 217).

Lehmann had this to say about gesture,

How great is the power of expression conveyed by the eyes and hands! I do not mean that you should ever make a gesture which would disturb the frame of concert singing...Be careful that you do not cultivate the possibilities of expression with the body from the outside, so to speak, - I mean by artificial movements... (1985, 13).

Facial gesture and expression should be unconscious and appear automatic but must be rehearsed. When rehearsing, a mirror is needed to see if the intention of the singer is, in fact, being achieved.

Working with an accompanist

Accompanist and singer are equal partners, and both are well advised to use a notebook and/or a tape recorder when working together. Having decision making recorded will save disagreement later as to what decisions were made at a particular time. It is advisable to carefully note rehearsal time, plus specific direction and agreement regarding fees and payment of the same. The responsibility of the training and remuneration of a page-turner when used is usually the responsibility of the accompanist. If no page-turner is employed then accompanists should rehearse the page-turns and turn the pages quietly. It is recommended that the singer be able to follow the pianist's score and the accompanist may speak the singer's words aloud in order to know what the singer is doing. It is also more professional for singers to be familiar with key signatures rather than requesting a

piece to be played 'a little higher' or 'a little lower', if the song is unsuitable for their vocal range. In recitals it is suggested that the procedure that accompanists keep their eyes on the singer and the singer be alert as to what is happening in the hall/room - piano benches have been known to disappear, music has fallen off the piano, light-bulbs have exploded, but the 'show has gone on'. Accompanists would do well to keep hands on the keyboard at the end of a song in the middle of a song cycle, as a signal to the audience that the piece is not over; be knowledgeable of cadence in case a song has to be suddenly curtailed; be ready to prompt in case of memory lapse on the part of the singer, and be able to extemporize in face of mistakes.²³

Ideally singers should be flexible and willing to listen to the opinions of the accompanist in matters of interpretation or pronunciation or even incorrect notes or rhythm.

Ideally, rehearsals might include protocol policy, for example: rehearsing in the recital hall; checking the tuning and action of the piano; noting the acoustics and balance of hall; giving instructions for backstage personnel; checking the lighting in order to ensure adequate exposure. The accompanist might count four or five seconds before following singer onto stage, observe audience, place music on piano and prepare to begin. At the conclusion of the group of songs the accompanist may carry the music off after the singer has walked towards the wings. It is highly desirable that bows are be carefully rehearsed with the accompanist, and the singer acknowledge the accompanist at appropriate moments, perhaps after each group, or after an especially difficult accompaniment.

Singers and accompanists are partners and collaborators in music and not as C.P.E. Bach wrote in Part 2 of his 'Essay on the True Art of Playing Keyboard Instruments' (1762) '...the soloist takes all bravos to himself and gives no credit to his accompanist...ignorant custom directs these bravos to him alone.' (cited, Solomon, 1981, 12). The pianist should not 'follow'.²⁴

²³ See further, Bean, Matt, 'Manipulate the Accompanist', *Journal of Singing*, LIV no. 3, March/April, 1998, 41-43.

²⁴ See further, Adler, Kurt, *The Art of Accompanying and Coaching*, (1907), New York: Da Capo Press, 1965.

Interpretation

Numerous authors have expressed themselves on interpretation, and on occasion their views seem to cancel one another out. Thus, for example of the nature and importance of good interpretation Henderson has this to say:

One may have a perfect attack, a beautiful legato, a ravishing portamento, a noble messa di voce and an elastic fluency of delivery, yet sing ineffectively. If the singer bestows all his thought on the perfection of each phrase as an individual entity he will never sing eloquently, though here and there he may rise to heights of extraordinary beauty...The singer must grasp his aria or his recitative in its entirety...Only in this way can he arrive at a proper conception of the delivery of his music, for only thus can he determine the distribution of vocal effects (1906, 254).

On the other hand, Bassini takes a less intellectual approach, 'The singer's mind should always be rather on the sentiment he is uttering than on the execution' (1857, 18), while Kofler warns against abandoning all technical facility to the emotions:

The advice commonly given to singers and actors to feel the emotions they express, is not quite right...Were he really to feel, to experience these emotions, not only would he be unable to sing or to recite, but his voice would be spasmodic in action, tremulous and irritated from nervous excitement (1889, 28).

For his part, Santley defends individuality in interpretation:

The interpretation depends greatly on the idiosyncrasies of its interpreters; if they are experienced artists, though the mode of carrying out the interpretation be in each case different, the result will be clear, forcible and logical (1908, 67).

More broadly, Plunket Greene puts emphasis on the personality of the singer, 'Personal magnetism, the ability to hold an audience, is also to a great extent a gift of the imagination' (1914, 18).

What shall we make of such remarks? Henderson's advice that performers think of their piece as a whole is well taken, though in rehearsal each phrase will

need to be practised individually. Bassini rightly focuses on sentiment over execution at the time of performance: it is psychologically disruptive, in the middle of a passionate love song, to be thinking 'Here comes that top C - how shall I achieve it?' But the technical work should have been so thoroughly done that such a mid-performance question would never arise. Kofler does well to underline the point we made earlier, namely, that the singer is to *convey* emotion rather than experiencing it, while Santley and Plunket Greene return us to the performer's personality and imagination. It is not necessary to have had personal experience of the emotions to be conveyed; the memory of a similar experience helps one to identify with the words. As Bernac reminds us one of the main perils in any given recital is the switching of emotions demanded by a varied programme,

But far more subtle is the task of the concert singer who, in the course of an evening, must be not one but twenty different characters, who, at times within the compass of just a few measures, and without any visual aid, must succeed in creating an atmosphere, evoking an entire poetic world, suggesting a drama - that is more often than not an inner one - expressing one after the other the most varied feelings: sadness and joy, quietness and passion, tenderness, irony, faith, casualness, sensuousness, serenity, and so on (1976, 6).

The neurologist, Critchley, writing about ecstatic performance mentions an incident quoted about the famous soprano Pasta,

According to a critic who attended her performance of Paisiello's *Nina*, '...not only did this enchantress hold her listeners spellbound; she was herself so seized and carried away that she collapsed before the end. She was recalled, and duly appeared; but what a sight! Too weak to walk alone, supported by helping hands, more carried than walking, tears streaming down her pale cheeks, every muscle of her expressive face in movement, and reflecting as touchingly as her singing, the depth of her emotions! The appearance rose to the highest conceivable pitch - and she fainted!' (1983, 37).

From this extreme of interpretative exertion McKinney will bring us to earth with a bump:

In the final analysis interpretation cannot be taught. If the student does not have enough creative imagination to react aesthetically to the text and the music, and enough freedom of personality to express what he feels, no amount of instruction can redeem the situation (1994, 29).

While, as McKinney suggests, the singer's personality and imagination are key factors in interpretation, the voice teacher can nevertheless *facilitate* a student's performance and stimulate the imagination. It is desirable that singers love literature. Teachers can help here by suggesting reading material. One has too frequently heard it said that few young singers are interested in the poetry of songs they perform, or in the books and plays which have inspired operas. We also hear that full-time vocal students have no time to read because of heavy timetables. A short cut, although far from ideal, for the opera student may be to study in detail just within the framework of the libretto itself. Very often composers modified play texts and characters to suit their own purposes. For example, the plot of Verdi's *Otello* stays very close to Shakespeare's *Othello*, but the operatic characters are not quite the same as their Elizabethan counterparts. It might therefore seem that study of the original play will not help with characterization. However, songs usually gain new depth when the verse that inspired the music is studied. Understanding the word and sentiments of poems leads to changes in dynamic levels, volume, accents, rubato and an overall understanding of the entity will add vitality and warmth.

Kivy makes clear that 'the question of what a musical performance is assumes as its first principle only that a musical performance must be compliant with a score' (2002, 224). There are two main aspects in the performance and interpretation of a song or aria. First, a careful study of the literary text and secondly, a careful study of the music: 'No musical notation can be interpreted outside the background knowledge required for its interpretation' (ibid, 228). In agreement with this I recommend that music and text are always seen as a whole. But how do we get from a lifeless mechanical rendition to a meaningful interpretation? Kivy replies,

The performer is under contract to play *what* the composer has written. But the contract also enjoins the performer to exercise his or her artistry as to the manner in which what the composer has written is played (ibid, 239).

Composers have their own ideas concerning the interpretation of their music, but they do not have the means to set all these ideas on paper; it is up to the intuition, trained imagination and artistry of performers to bring the music to life, adding aspects of their own imagination and personality with integrity. This involves scholarly investigation, awareness of style, and detailed knowledge of performance practices.²⁵ Donington describes interpretation as,

that element in music made necessary by the difference between notation (which preserves a record of the music) and performance (which brings the musical experience itself into renewed existence) (1980, 276).

Bernac states at the beginning of his book on interpretation of French song that after the sight of the text 'The performers' first task is [therefore] to decipher this notation and embody it in sound, with the utmost care and scrupulous accuracy' (1976, 2). Tom Sutcliffe has this to say on hearing a wonderful performance,

You can feel the gorge rising in your throat, swelling up, as you hear a certain kind of voice making sense in its special totally personal way, creating a sound which to you as an individual resonate spiritually (perhaps physically) like a sympathetic string on a viola d'amore. You just want the sound to go on forever. It's inexplicable. It's infatuation. And it's one of the most powerful engines of engagement in the whole operatic business... (2001, 14).

The musical quality of a performance depends on the singer's ability to listen, think and feel, to make imaginative and sensitive decisions about how a song is to be sung, and to translate all this into practice, given the understanding and command of technical skill. Paul Harris says,

²⁵ See further, Ivey, Donald, *Song: Anatomy, Imagery, and Styles*, New York: The Free Press, 1970.

When musicians read music they hear it in their musical ear, they understand key and rhythm, they perceive balance and sonority, structure and meaning. When they hear music, they instantly know about it (2001, 14).

He goes on to say that 'effective teaching can help...bring about development of true musical thinking' (ibid, 14).

It follows from what has been just said that singing should be inspired, alive, expressive and intelligent. These features cannot be taught in isolation, nor can they be checked off as individual, specific achievements; they are too closely and complexly inter-related. But when they are all in place we have a musical performance, and when they are not, it is quite easy to recognize an unmusical performance. Lehmann advises singers thus:

Do not build up your songs as if they were encased in stone walls - no, they must soar from the warm, pulsing beat of your own heart, blessed by the inspiration of the moment. Only from life itself may life be born (1985, 10).

The question as to where the line can be drawn between the subjective and objective aspects of the performance process has been much debated. The teaching of musical performance ought always to be based on awareness of music as sound to be created and listened to, with, of course the added bonus of words for the singer. Some would say that musical performance cannot be taught, but that it can be cultivated in most people. From the fact that singers want to learn how to sing, one can assume some interest which might suggest some basic interpretational senses on which to build, and on which the teacher might concentrate. Specific periods could be allocated where the singer is given a task, for example, receiving a letter containing good news; bad news; a threatening letter or a funny letter, observing their own reactions alongside their teacher. There is no limit to this type of exercise and new powers of observation might thus be aroused, and then related to song.

In a beginner, an apparent lack of musicality may be due to lack of experience. In such cases it may be helpful to afford plenty of time, to let beginners

have opportunities to make their own musical decisions. Being constantly told what to do, and to be rushed through the learning of skills, deprives musicians of their full potential. Time is needed to practise and to develop ideas, awareness and the ability to think in the medium of singing.

Encouragement should be given, from the very first lesson, to engage with the songs, some aspects of which are given and some to be decided about. Good intonation, phrasing, rhythmic interpretation, tone quality, among other things, are questions of how the music will sound, and technical skill becomes the necessary means of producing different and controlled sounds and of finding new ones. These are the unique touches, which make each performance individual and interesting. No two performances are alike, because no two performers are alike. Neither will the performer sing the same song identically on successive occasions. Mood, environment and the changing temperament of the performer will influence the performance. Awareness of different musical possibilities may be awakened by talking about and trying alternative interpretations, although composers' clearly stated wishes should not be disobeyed.

Obviously for a satisfactory performance the singer must know the work well, so that there may be complete freedom of expression, otherwise the performance will, among other things, be wooden and lacking in imagination. Having the student become creator by composing encourages thought about the elements of song construction.

There are no hard rules or laws to be applied to expressive singing, though useful suggestions may be offered. While the detail of expression cannot be taught, the various methods of producing expressive effects and the application of these methods may be studied before inward emotions can be displayed in artistic singing.²⁶ This is largely a matter of having efficient technique and wide knowledge of, for example, time changes. The time change may need to be gradual and in steps, working from semi quavers to crotchets; a gradual but even decrease may be indicated by *ritardando* or *rallentando*; a sudden immediate slowing of the tempo may be indicated by *ritenuto* or 'holding back'. A more permanent change would

²⁶ See further, Miller, Richard, '(1) Imaginative Singing', *Journal of Singing*, LVIII no. 5, May/June 2002, 415-416.

be indicated by a switch from *allegro* to *allegretto*. These terms are best not limited to the theory lesson, important though that is, but may be demonstrated to the student by the teacher.

Similarly *fermata* may be clearly explained and demonstrated. Students cannot always understand the need for a pause. They may wonder why the composer did not just increase the value of the note. The explanation may illustrate that the *fermata* is a way of telling performers that they have complete control over the duration of a particular note or notes. It is suggested that simply following the instructions given by the composer does not achieve artistry - a pause may be a breathtaking moment of suspense or just a space; a crescendo may be an exciting build-up of tension or just a getting louder.

One impediment, which may stand in the way of sensitive interpretation, is a lack of knowledge relating to the type or style of a song or aria. Here can be stressed once more, as in the preceding section on general knowledge of the arts, the necessity for a well-rounded multi-disciplinary education for the teacher/singer.

Intuition and experience are the best teachers. Students would be well advised to listen to the performances of other reputable musicians (but not, of course, to imitate them; they should be encouraged to develop their own ideas for interpretation) and to study scores. Frank Battisti quotes Wilhelm Furtwängler on the process of studying a score:

First the actual notation, through it the performer gets to know the work. He traces backward the steps of the composer, who gave life to his music before putting it down on paper...The heart and marrow of this music is therefore like an improvisation which he tries to write down. Whereas, to the performer, the work appears like something exactly the opposite of an improvisation, as a thing written with fixed signs and unalterable shape. Next the performer must guess the meaning and work out the mystery of this music in order to get to the work itself, which it is his business to bring to life (1996, 13).

In the same article Battisti quotes Carlo Maria Guilini:

A composer can write down on paper only part of his thought. Our problem is not just how to study the score and learn the notes but how to read between the lines (ibid. 14).

Although, as I have argued, the use of analogy, metaphor and simile is less than helpful in teaching singing technique, when teaching interpretation these devices may stimulate the imagination.²⁷ We can permit Edidin aptly to conclude this general discussion of interpretation:

The artistry of classical performers is exercised in activity whose point is focussed on bringing to sound the artistry of composers. The varying success with which they do so testifies to the importance of the details left to their keeping (2000, 325).

Performing practice

When contemplating a performance it is helpful to reflect on the contribution offered by performing practice. Performing or performance practice means, according to Brown, 'the way music is and has been performed (especially as regards the relationship between the written notes and the actual sounds)'. (1980, 370). It is concerned with 'authenticity' in performance.²⁸

'Authenticity' begins with the study of music notation as a set of instructions to be interpreted. Notation has become more detailed as the centuries have passed. However, no matter how detailed the instructions they can be read and interpreted by different singers in different ways. No matter how much detail is written into the score, no two performances - even by the same person, for various reasons (habit, training, temperament, acoustics) - are the same. Bridger rightly points out that,

Even in so-called 'authenticity', much guesswork and invention is involved, often with only a veneer of solid, definite historical evidence. And in the actual notations available for the performing arts much is omitted - the inflections of speech, actual stage movement in drama, gesture, fine details of musical dynamics and

²⁷ See further, Stollak, Mary Alice and Lois Alexander, 'The Use of Analogy in the Rehearsal', *Music Educators Journal*, LXXXIV no. 6, May 1998, 18-19.

²⁸ See further, Dart, Thurston, *The Interpretation of Music*, London: Hutchinson and Co., 1967.

articulation...Approximation rather than pre-determined precision is the main characteristic, and it is for this reason that the role of the performer is so creative and diverse (1996, 64).

Many performers over the centuries have taken advantage of the various ambiguities in the score, for example, the excesses of ornamentation at certain points in history. Pitch level has been raised over the years and must be taken into consideration. Then there is the question of changing taste. But with the advent of sophisticated recording a definitive performance is being pursued by some. Unwritten conventions are problematic and some would say that you can read musical treatises alongside musical scores for ever but that even the treatises themselves are open to various interpretations, probably conditioned in part by our accumulated musical heritage, and the advice may be inappropriate for modern performing environments

Obviously, we can never know how performances sounded before the advent of recording, and it seems a pity to ignore the possibilities offered by sources on historical performing practice for stimulating our musical responses and challenging stylistic habits.²⁹ Therefore, historical research is a must. We would do well to look more deeply into what the music is actually trying to say. For example, Bach is often thought of as being solely form, plus a collection of musical ornaments, but singers need to learn how the music of his time communicated, otherwise performances of his work will become anachronistic, very often with nineteenth century romantic idiosyncrasies.³⁰ Singers will never be able to discover the whole story, because, historically they are too far away. But it is possible to study the music on its own terms using a 'clean' edition with, if possible, no additions to the composer's work. Often the composer worked with the singer in performance and ornaments were left to the singer to devise in what were the traditions of the day. The more recent the composer the less he or she leaves to the singer's discretion. Improvisations can be sung within what is thought of as acceptable parameters of the period. Shore said,

²⁹ See further, Stevens, Denis, *Early Music*, London: Kahn and Averill, 1997, also, O'Dea, Jane, 'Authenticity in Musical Performance: Personal or Historical?' *British Journal of Aesthetics*, XXXII no. 4, October 1994, 363-375.

This so called craze for baroque authenticity has now ruined all our magnificent organs and I am scared to play a Handel Sonata on my instrument for fear of being pilloried because I prefer Handel without frills! What a state we are all in. (1982, 100).

I have found it beneficial, when seeking to determine the expressive shape of a piece of music, to study the philosophy of the composer. And, of course, the singer's own musicianship developed from experience and conditioning is layered over all. Here we may remind ourselves of the importance of a good standard of general education, vital for the singer, mentioned at the beginning of this section.

Over the last hundred years some composers have set out to invent new ways of notating sounds and concepts. Certain notations are generally accepted but otherwise there are very few rules, and the singer is best advised to read the explanation with which the composer may preface the score.

The performance

Promoting the performance

Promoting oneself as a successful artist and performer takes time, money, and patience. Apart from performing some of the things needed are event organization, publicity material, and establishing contacts. There are a few marketing and communications companies, as distinct from agents, who help and support artists in their professional development, taking the pressure off, and allowing the singers more time to perform. Among other things they organize publicity and assemble portfolios of work, teach their clients marketing skills and act as mentors. There is good reason to suggest that advertising should be completely honest, truthful, and unexaggerated.³¹

³⁰ See further, Donington, Robert, *Baroque Music: Style and Performance*, London: Faber Music Ltd., 1982.

The location of the performance

Performers are well advised to take account of the physical environment in which they will be working, and to do their best to familiarize themselves with the acoustics, and with any amplification system that may be in use.

Amplification helps in an acoustically appalling venue. Such a venue may be bedecked with fabric and furnished with thick carpet; or over-reverberant rooms with high ceilings, marble walls, many glazed areas and hard floors. In a stadium, or outdoors it is taken for granted that the singers will be amplified. Rumour has it that more top opera stars wear microphones in their hair than is publicly acknowledged. Some companies have enhancement systems installed which, without picking up individual voices, can create sound reflections in areas in which none had existed before. Microphones can sometimes seem to interfere with the natural communication between singer and audience. Much of this amplification is done in secret. The bass, John Tomlinson said,

I think that essentially the opera singing voice and the microphone are contradictory. Opera singers sing the way they do because they have to communicate with 3,000 people over a big orchestra. If you take away that necessity, if you give an opera singer a mike, they will automatically sing in a different way; the power and projection no longer come into the frame. It's instinctive - the mike comes closer and you start singing like Bing Crosby. I don't want to exaggerate the situation, as in most of the houses in the world it is not yet a problem. But if it encroaches more, in 30 or 40 years' time you could have situation where the skill of projection is forgotten about. Slowly people will lose the ability to do it, because the mikes are there and are being increasingly used (2000, 35).

He goes on to say that because of all the secrecy, he never knows whether or not there is a sound system in the building (ibid, 35). Concern is raised about the fact, not that amplification is occurring, but that it is being done dishonestly.

Some directors are in favour of the use of amplification in difficult acoustics, though they would prefer to have the acoustics in the theatres improved. Many designers say that, even with state of the art technology the most efficient acoustic is the one to be found in the centuries old horseshoe shape. This design

³¹ Cf. the discussion of ethics in Chapter 2 above.

permits the greatest number of people to be as near as possible to the performers and allows the shape of the auditorium to be narrow. The narrowness allows for sound reverberation coming at the audience from the sides of the auditorium. Another important consideration is the design and position of the orchestral pit. In larger theatres the orchestra needs to be more in the open, but in smaller theatres a stage overhang dampens the sound of the orchestra. Balconies are vital, as they tend to reflect sound down into the expensive seats in the stalls, although it is not always the case that the most expensive seats have the best acoustic.

Performance anxiety

Nerves are normal. Stage fright is no respecter of persons. Anyone, whatever their level of accomplishment or experience, can succumb to performance anxiety. It can be handled. It is a normal response to a pressurized situation. However, if it becomes so severe that performances have to be cancelled then professional help is necessary.³² Psychologists who treat performance anxiety are generally of two types: psychoanalysts or cognitive/behaviourists. Psychoanalysts tend to assume that anxiety is interpsychic; their treatment is lengthy and endeavours to uncover trauma and/or inhibitions that may be contributing to the anxiety. Behaviourists aim to modify a stimulus-response pattern that may do us harm. Amongst some of the different therapies used by the behaviourists are: systematic desensitisation, implosion, behaviour rehearsal, attentional training, autogenic therapy, cognitive therapy, stress inoculation, thought stopping, humanistic therapies and physiological strategies. Both ways have great rates of success but lead to managing performance anxiety in very different ways. And, of course, one can have recourse to rituals, superstitions, fate and religion. As a last resort there are pharmacological therapies. It is best to try to learn how to channel the adrenalin and use it positively.

The bodily response in performance anxiety is caused by the effect of increased adrenalin on the system, producing what is known as the 'flight or fight' reaction. It is inherited from our biological ancestors who literally had to flee or

³² See further, Ching, James, *Performer and Audience*, London: Keith Prowse, 1947 and Wilson, Glenn W., *Psychology for Performing Artists*, 2nd ed., London: Whurr Publishers, 2002.

fight when confronted by danger. In this situation the heart beats faster to send more blood round the system, the muscles tense ready for action, the body sweats so as to lose heat when running, digestion is inhibited so that blood can go to the muscles where it is needed. But for singers, rapid heartbeat makes for uneasiness, tense muscles cause poor 'fine' control and poor digestion makes for a sick feeling or nausea.

These symptoms can be controlled to a certain extent, accepting that it is just 'a pre-performance thing' and that the heart will go back to normal once the performance begins, that it is a 'buzz' or a positive feeling of elation.³³ It is a question of changing one's belief system or attitude either by self-help or counselling. Experience suggests that there are three causes of negative beliefs: conditioned responses, fear of fellow performers, and motivation problems. Conditioned responses involve performance anxiety resulting from previous performance disasters - if it can happen once it can happen again. This can be dealt with by confronting the fear as irrational using a sense of scale in relation to catastrophes such as wars, fires and floods. The counter measure to fear of fellow performers and their criticisms is to cultivate a spirit of generosity to yourself and to other musicians around you, others will then perhaps like you; if not then that is their problem. Then there are motivation problems, which include: how fellow musicians see us, inferiority problems, apologizing or giving an excuse for not doing well, feeling that nobody understands us, the inner conviction that we are frauds.

There are various positive steps, which may be taken to overcome stage fright and, usually, the results are good. Included in the remedies are many alternative therapies: Beta-blockers, computers, bio feed-back machines, autogenics, hypnosis, meditation yoga, Alexander Technique, body engineering, reflexology, reikki, aromatherapy...³⁴ Often relaxation is suggested, however, the

³³ See further, Grindea, Carola, 'The Phenomenon of "Peak Experience" or "The Flow" in Musical Performance', *ISSTIP Journal*, no. 10, November 2000, 7-11.

³⁴ See further, Haid, Karen, 'Coping with Performance Anxiety', *Teaching Music*, VII, no 1, August 1999, 40-41, 60; Harris Sandra R., 'A Study of Musical Performance Anxiety', *American Music Teacher*, XXXVII, no.4, February/March, 1988, 15-16; Steptoe, Andrew, 'Stress, Coping and Stage Fright in Professional Musicians', *Psychology of Music*, XVII, 1989, 3-11; Senyshyn, Yaroslav, 'Perspectives on Performance and Anxiety and Their Implications for Creative Teaching', *Canadian Journal of Education*, XXIV, 1, 1999, 30-41.

body is never totally relaxed, and for the performer who needs to be poised, balanced and ready to go, relaxation is not a useful term.

It is sometimes useful to imagine the actual performance. After all, the performance begins in the imagination. It may be looked upon positively and not as something to be dreaded; one cannot communicate freely in an anxious frame of mind. To see the entire performance as a great occasion where the performer is confident, well prepared, physically fit and enthusiastic will contribute to a beautiful presentation. Singers would do well to imagine their involvement in the music (it goes without saying that the music must be meticulously prepared), the meaningfulness of the performance and the feeling afterwards. This pre-performance imaginative reflection helps eliminate tension. If we think of issues in performance, for example, musicianship, attitude of the performer, we might ask, what impression do I wish to convey in the several items in the programme: fiery, passionate, authoritative, commanding, well-prepared, proficient, inspired? What is the aim of the performance: to impress the audience, agents, adjudicators, record producers, or to achieve personal satisfaction?

It can be helpful to imagine the programme in its broader context: the choice, type and order of the music; the warming-up period; the time and place of the performance; the performer's dress. One imagines oneself walking on to the stage, greeting the audience (if appropriate, with well prepared words), and beginning to sing (with eyes on the audience, no nervous lip-wetting, no floor-gazing). It is far easier to keep the audience's interest than to regain it once it is lost. Other questions, which may be posed in imaginative preparation, are: How should one leave the stage? What use should be made of the interval? Every specific detail, no matter how small, contributes to the outcome of the performance. Most of this preparation also applies to singing in opera.

After the performance some may suffer post-performance depression. It is possible, however, to prepare imaginatively for a positive feeling after performance, hopefully a proud feeling. This will influence the performance itself.

It is suggested that more than adequate preparation for performance is required. Kemp makes this suggestion, which applies to singers as well as other instrumentalists:

...many teachers advise their students: if they are prone to performance nerves, they should make sure they have a good margin of safety within which to operate. In other words, they should not play pieces in public about which they have doubts concerning their technical proficiency (2000, 97).

The following is the kind of guidance which is frequently offered to performers by way of allaying or reducing performance anxiety:

1. Visualize yourself in a positive light: walking onstage, opening mouth to begin to sing or speak, hear the beautiful tone that flows out, feel the exhilaration, see the warmth in the audience, hear them clapping, shouting 'Bravo', bow, coming back onstage for curtain calls, and encores being demanded.
2. Resolve to enjoy the performance, mistakes and all - it is enough to do my best, strive for excellence rather than perfection, it is normal to feel nervous, vulnerable or fearful, a few mistakes are no big deal, keep going whatever happens, learn through experience. Kemp expresses a positive view,

...there is a body of research that suggests that, for some, anxiety can *facilitate* higher levels of standards of musical performance. This facilitative role appears to be particularly manifest in more experienced performers who may have learned to control the more debilitating effects of anxiety (ibid. 107).

Crozier and Harris recommend a good night's sleep the night before a performance, 'Cognitive ability and concentration are both dependent on an appropriate number of hours' sleep' (2000, 107). They put forward very basic ideas to relieve stress, for example, rehearsing previously the journey to the performance venue, allocating adequate time for the journey, checking the parking situation, and having the correct money for the meter (ibid. 107).

Since dehydration can result from performance stress, it is well to increase water intake, not only on the performance day but also during previous weeks. Slow deep breathing helps. Beta-blockers have potential side effects: among other

things, dizziness, light-headedness, hallucination, lethargy, and insomnia. Homeopathic drops may help and may not have side effects; Dr Bach 'Rescue Remedy' aids can be useful, Australian 'Performance Plus' - is said to be non-sedative and will not cause drowsiness.

For a dry mouth: it is advisable to check medications that might worsen the problem. Over the counter liquid spray solution that creates artificial saliva (it is recommended to test this product well before the performance) may be helpful, gently nibbling the tongue tip to create saliva and subtle sucking movements to promote saliva can be tried.

It is important to remember that the rush of adrenalin adds that extra excitement to performance if used positively.

The evaluation of performance

Whether we think in terms of the theory of art, or, which is wider, of beauty (for the natural order, mathematical formulae etc. may all be said to be 'beautiful'); or whether we are thinking of that philosophical aesthetics which analyses the logic and presuppositions of aesthetic discourse, the fact is that many people, from 'ordinary' listeners to paid critics, evaluate music without ever having examined such theoretical matters. Clearly, there is an overlap between general and analytical aesthetics; indeed the latter is in a sense parasitic upon the former. For whereas the adjudicator or critic may say of a performance 'That was beautiful' the analytic aesthetician will step backward and ask what is the analysis of this assertion. Indeed, *is* it an assertion or just an expression of emotion?³⁵ Is an objective claim being made, or a subjective judgement - or, perhaps, both?

There is much to be said for the view that vocal pedagogues do well to acquaint themselves with aesthetic discussion - especially as it bears upon music because they are constantly evaluating performance not only from the point of view

³⁵ For the historical context of musical aesthetics see Lippman, Edward A., *A History of Western Musical Aesthetics*, Lincoln, Nebraska: University of Nebraska Press, 1992, also Barwell. Ismay, 'How does art express emotion?' *The Journal of Aesthetics and Art Criticism*, XXXV no.2, Winter 1986, 176-181.

of technique, but aesthetically. Similarly, critics and adjudicators (roles which the voice teacher may from time to time fill) would be well advised to ponder carefully the grounds of their judgements and the meanings of their utterances. Over and above all this there is the question how far vocal pedagogy contributes to aesthetic education - and what is meant by 'aesthetic education'? Leonhard contends that

Music education as aesthetic education is education in the realm of feeling...[it] frees the human spirit and allows it to soar as a result of two types of experience. 1. Projecting the expressive import of music as a performer and as a composer. 2. Reacting in a feelingful way to the expressive import of music as a listener (1971, 6).

General aesthetic considerations

It has been said that the whole of philosophy consists of footnotes to Plato, and certainly he introduced lines of discussion in aesthetics that are being pursued to this day. Among his important concepts is that of *mimesis* (imitation, representation of reality). This has given rise to a vast discussion of how far all art is, or should be, representative; and this in turn has prompted that realization that in important respects music is unlike those arts such as painting and sculpture which can be (though they need not necessarily be) more obviously representational.

Plato believed that the aspect of reality imitated in the music was automatically imitated by the performer; consequently if the music was imitating unworthy things then the performer too was imitating unworthy things. It would then, Plato implies, follow that music has a moral influence,

rhythm and harmony sink deep into the recesses of the soul and take the strongest hold there, bringing that grace of body and mind which is only to be found in one who is brought up in the right way (1951, 88).

Building on Plato, Croce, the modern Italian philosopher, went a stage further and introduced a distinction between representation and expression: representation as by narratives, stories and descriptions, and expression as existing without the stimulus of these. The present day philosopher, Kivy argues that music is sometimes representational and refers to Honegger's *Pacific*, 231, in which the sound and movement of a train is imitated,³⁶ while Scruton points out that,

It is one thing for a piece to be *inspired* by a subject, another for it to imitate the subject, another for it to evoke or suggest a subject, another for it to express an experience of the subject, and yet another for it to *represent* the subject (ibid.134).

In addition there are theories of non-mimetic or non-conceptual music. Wilkinson asks,

What kind of art can this be?

The theories of musical aesthetics, which attempt to answer this question, fall into two broad classes:

- (a) *heteronomist theories* which try to explain the aesthetic value of music in terms of its relations to something outside the music, and this 'something' is usually emotion; and
- (b) *autonomist theories* which maintain that the aesthetic value of music depends on nothing outside itself, but solely on features intrinsic to the music. (1995, 195).

The contrast between programme and absolute music is indicated by (a) and (b) above.

While music may be written in such a way as to stimulate the imagination (in which case the title of the piece may assist the imagination), it does not represent to an audience a linear or three-dimensional shape. If bees are brought to mind when Arthur Askey performs 'The Bee Song', it is nevertheless Arthur Askey that we see, not visual representations of bees. The same applies to Vivaldi's *Four Seasons*, and Debussy's *La Mer*.

However, some have argued that music can convey, or represent the emotions. Scruton believes that

³⁶ See further, Kivy, Peter, *Sound and Semblance: Reflections on Musical Representation*, (1984), Ithaca, NY: Cornell University Press, 1991.

we should not attribute the expressive content of a work to the artist who created it...Mozart was deeply unhappy when he wrote the "Jupiter" Symphony, K. 551; but what higher expression of joy than the last movement of that work? (1999, 144-145 cf. 1987, 172-3).

This view is countered by Hanslick, and by such contemporary philosophers as Derrida, who deny that the meaning of any 'text' is stable and, accordingly, do not dwell on the possibility of evaluation. Hanslick rejects the representational in music, 'The representation of a specific feeling or emotional state is not at all among the characteristic powers of music' (1986, 9). According to Wilkinson, (cited by Hanfling) theories such as music being the expression of people's feelings are "heteronomist" because they rely on something *other* than the work' (1995, xii). Dodd's idea follows that of Plato in that music is eternally conceived and then discovered by the composer (2000, 424-440). This view is rejected by Trivedi who defends Levinson's conception 'of musical works as creatable indicated types' (2002, 73).³⁷

Others, who think in instrumental/utilitarian terms that the objective of musical performance is usefulness to society, will also query the importance of the individual's emotions. Examples of this can be found at various points in history.

In the fifteenth century the main aesthetic principle was that the music should be fitting to the occasion, for example the music should be suitably mournful for a funeral and joyful for a banquet. Wegman tells us that Tinctoris (c.1435-1511) felt that,

However pleasing sound may be...there ought to be more to musical experience than acoustic sensation alone...If one is to take true delight in music, then one must exercise the internal faculty of understanding and appreciate 'proper composition and performance (2002, 52).

³⁷ See further, Berenson, Frances, 'Representation and Music', *British Journal of Aesthetics*, XXXIV no. 1, January, 1994, also, Trivedi, Saam, 'Against Musical Works as Eternal Types', *British Journal of Aesthetics*, XLII, no. 1, January, 2002, 73-82.

Agricola (c. 1443-85) affirms, 'In order to pass informed judgement on the quality of a work, and the skill of its composer, one needs to exercise understanding' (ibid. 2002, 52).

Knieter is adamant that 'the quality of life in any community is directly related to the quality of music available to that community' (1983, 33). He goes on to cite Plato's philosophy 'that the study of music could improve health, affect morality and cultivate good citizenship' and continues by pointing out that these claims 'support the study of music for nonaesthetic (non-musical) reasons' (ibid. 35). However he concludes that these views 'fail to communicate the virtues and uniqueness of music...and are susceptible to attack by any well-educated member of the community' (ibid. 35). Following Plato, we have other instances throughout history of musical aesthetics of the individual's behaviour being influenced by music.³⁸ Tarry cites Martin Luther: 'Music was to Luther "...a mistress of order and good manners which makes the people more moral and reasonable, that is, more active and sensible in the faculties of wise and true thought"' (1973, 356). As Sim points out,

the definition of art has often been connected with questions of value, and according to some writers, the questions 'What is art?' and 'What is good art?' are inseparable (1995, viii).

As we come to more recent time, we find Adorno, favouring Schoenberg as a composer breaking with the past, seeing 'arts value as lying in its ability to challenge tradition and the established order' (cited Sim, 1992, 147). What Adorno considered false were traditional tonal combinations. Writing in the light of Marxist theory he paid particular attention to the current social context and argued that only such music as the dissonance of Schoenberg reflects the way in which society is. Others have questioned whether 'society' is in all respects as decadent as Adorno seems to have supposed. Scruton refutes two ideas of the Frankfurt school with which Adorno was associated, along with Horkheimer and Bloch. He says of the two ideas,

³⁸ See further, Mark, Michael L., 'The Evolution of Music Education Philosophy from Utilitarian to Aesthetic', *Journal of Research in Music Education*, XXX no. 1, 1982, 15-21.

whose persistence has been especially damaging: the idea of mass culture as a 'bourgeois' product, and of modernism as the only available answer to it. The first of those ideas is based in a sociological theory, the second in philosophy of art (1999, 469).

Rowe, in a review of Scruton's book mentioned above was delighted to write about the section headed '"Thoughts on Adorno", [it] made me want to walk round the room with pleasure' (1999, 424).³⁹

On the other hand, Dickie contends that a work of art is simply that which has been deemed to be such by a person or persons competent to make the judgement. This, as Sim points out, 'presupposes nothing about the intrinsic qualities of the work, or about the experiences or attitudes of those who view or hear it' (ibid, xiii).

Turning more directly to the assessment of performance we find that Putnam leans towards assessing performance less on the emotions and more on the content of the music,

The professionalism of an outstanding orchestra does not lie in the members' emotive potential but in their ability at any given performance to understand what the structure of a work implies, emotionally and otherwise, and to express that work well (1990, 362).

Putman goes on to say that this sensitivity is

not then a re-enactment of the composer's feelings nor primarily an expression of the performer's feelings. It is a fusion of intellect and emotional capability focused on the artefact itself (ibid. 363).⁴⁰

Sparshott aptly illustrates the above:

³⁹ See further, Edgar, Andrew, 'An Introduction to Adorno's Aesthetics', *British Journal of Aesthetics*, XXX no., 1, January, 1990, 46-56; Paddison, Max, *Adorno's Aesthetics of Music*, Cambridge: Cambridge University Press, 1993.

⁴⁰ See further, Robinson, Jenefer, 'The Expression and Arousal of Emotion in Music', *The Journal of Aesthetics and Art Criticism*, LII no., 1, Winter, 1994, 13-22, also, Kivy, Peter, *The Corded Shell*, Princeton: Princeton University Press, 1980 and *Music Alone*, Ithaca: Cornell University Press, 1990.

The following situations may all be realized, though they may well be indistinguishable in practice in the absence of specific information:

- (a) someone skilfully sings a sad song, not feeling sad at all;
- (b) someone sings a sad song and happens to feel sad in the way the song expresses, but their singing is not affected by their sadness;
- (c) same as (b), except that the sadness the singer feels is not the sort of sadness that the song expresses;
- (d) a sad singer sings a sad song, intending the song to have the meaning of expressing that sadness to the hearer;
- (e) a sad singer sings a sad song, using the song to express that sadness for the singer but not intending it to have that significance for the hearer;
- (f) a sad singer sings a sad song, meaning it to be taken as evincing the singer's sadness (that is, its sadness is to be taken as caused by the singer's sadness), but meaning it not to be meant to be recognized as intended to express it;
- (g) a singer sings a sad song, not knowing it to be sad, so skilfully that its hearers recognize its sadness (1994, 32).

But if the emotion of a song is adequately to be conveyed the performer must be guided by the words. To 'jazz up' a lachrymose aria would sound false, inadequate, because 'unfeeling'. But to say this presupposes that we have access to the composer and writer's intentions - something which a number of philosophers deny. At the extreme this leads to a situation in which no rational discussion of alternative evaluations is possible, for subjective relativism rules. Honouring the composer's intentions can be taken to extremes while disregarding musical aesthetics. Wimsatt and Beardsley's paper 'The intentional fallacy' (1954) took to task (albeit referring to literature) much of twentieth century criticism based on what the author intended, saying that what the author intended 'is irrelevant to the act of critical interpretation' and 'They make a sharp distinction between internal and external evidence for the meaning of a literary work' (cited, Sim, 1992, 334). On the other hand, if one has the opportunity to work with composers then one may suppose that what they intended in their composition is made clear and that defines the interpretation. However, Ross and Judkins would say,

While we admit the artists' beliefs and intentions are relevant to the interpretation of their works, we do not *privilege* those intentions.

That is, we do not claim that the meaning of a given work is whatever its artist intended in creating it. Such an approach would be too limiting, since the artist may have failed to achieve her intentions, or may have unknowingly created a work with a certain significance (1996, 18).

They go on to insist that musical interpretation demands knowledge of structure and content of the music to be performed. Kivy also claims that authenticity in performance demands more than just trying to define the composer's intentions and cites reunderstanding of performance conditions as they relate to the contemporary situation.⁴¹

The traditional discussion as to whether beauty resides in the object, or is in the eye of the beholder, takes a particular slant where music is concerned. For although in a sense the music exists when composed, and prior to performance, each performance is a unique work of interpretation; when it is over the work of art comprising the union of composition and execution, though it may linger in the memory and (unlike a piece of sculpture or a painting) is repeatable (though never absolutely exactly - even by the same performer), is 'gone' - or imprisoned in a recording. On the occasion of musical performance there may be some who find the beauty inherent in the work, while others judge the beauty or otherwise of the piece in terms of their subjective response to it. Langer has argued that musical patterns are analogous to human feelings, and that 'music articulates forms which language cannot set forth', (1957, 223). It is not clear, however, how such extra-linguistic forms are intelligible.⁴²

Even if it could be shown that specific emotions somehow inhere in specific musical forms, the link between such forms and the frequently diverse emotional responses of individuals to a given performance is by no means clear. Kivy says,

⁴¹ See further, Kivy, Peter, *Authenticities: Philosophical Reflections on Musical Performance*, Ithaca: Cornell University Press, 1995.

⁴² See further, Åhlberg, Lars-Olof, 'Suzanne Langer on Representation and Emotion in Music', *British Journal of Aesthetics*, XXXIV no. 1, January 1994, 69-80; Wilkinson, Robert, 'Art, Emotion and Expression', *Philosophical Aesthetics*, ed. Hanfling, Oswald, Oxford: Blackwell, 1995, 179-238.

Sad music emotionally moves me, *qua sad* music, by its musically beautiful sadness, happy music moves me, *qua happy* music, by its musically beautiful happiness (1999, 13).

The tenor is booed by members of the audience; 'Call that singing?', 'You're faking' and 'You're finished' (Mason, 2001, 6). Mason continues,

Perhaps it is not surprising that an extravagant art form which expresses such powerful emotions, attracts an audience that is not afraid to make its feelings felt about some of these issues (ibid, 6).

The tenor, Schade, and the baritone, Braun, have clear ideas about their own music making and interpretation and, 'Both agree that there's a misguided modern tendency for audiences to treat loud as good because people think volume is emotional' (cited, Carlin, 2000, 38).⁴³ Moreover, some disjoin the expressiveness of music from the emotional response of the audience.⁴⁴

But need we draw a hard and fast distinction between the subjective and the objective? Confronted by the subject-object distinction, Kant sought a fresh approach. In *The Oxford Companion to Philosophy*, the article on aesthetic judgement gives much credence to Kant's influence,

aesthetic judgements are distinguished both from the expression of subjective likes and dislikes, and from judgements that ascribe an objective property to the thing that is judged. Like subjective preferences, they must be made on the basis of an experience of pleasure; but like property-ascribing judgements, they make a claim with which other subjects are expected to agree (1995, 9).⁴⁵

This remark is echoed by Scruton:

In one sense aesthetic judgement is subjective - for it consists in the attempt to articulate an individual experience. But in another sense

⁴³ See further, Allen, R.T., 'The Arousal and Expression of Emotion by Music', *British Journal of Aesthetics*, XXX no. 1, January 1990, 57-61.

⁴⁴ See further, Robinson, Jenefer, 'The Expression and Arousal of Emotion in Music', *The Journal of Aesthetics and Art Criticism*, LII no. 1, winter 1994, 14-22.

⁴⁵ See further, Weatherston, Martin, 'Kant's Assessment of Music in the *Critique of Judgement*', *British Journal of Aesthetics*, XXXVI no. 1, January 1996, 56-65.

it is objective, for it aims to *justify* that experience, through presenting reasons that are addressed impartially to all beings with aesthetic understanding (1999, 376).

Earl William Jones expresses this opinion,

...the perception of beauty in the beautiful singing is the confirmation of a multi-layered experience; a unity of physical, intuitive, and intentional acts; the artistic exploration of the silent, sound, signal, and symbol modes, integrated, fused into song (1989, 197).

Evaluating vocal performance

It seems that however much a Platonist (Croce and Collingwood come to mind) may hold that all music is already eternally written and in that sense exists before and apart from human beings, a performance is given at a specific time and place, and such performances are in fact evaluated by singing teachers, critics, agents, examiners, and adjudicators. Over and above the considerations in the preceding sections, it will be helpful to approach the evaluation of performance with Lonergan's classification of mental capacities in mind: attentiveness, intelligence, reasonableness and responsible decision (Meynell, 1995, 7-8). Meynell goes on to say, 'The principles which I have sketched need no further foundation; they establish themselves by virtue of the fact that any attempt to argue against them is self-defeating (ibid, 8).'⁴⁶ With the foregoing theoretical considerations in mind we proceed now to reflect upon a diverse group of evaluators.

The critic

From a critic we expect the response of a broadly educated person who may or may not be a practitioner of the art form under review. In some cases a critic may display ignorance of the singing voice, and may hunt down his prey with gossip and titbits which make an otherwise boring column interesting to the non-

⁴⁶ I draw this summary from Meynell, Hugo, 'On Nietzsche, Postmodernism and the New Enlightenment', *New Blackfriars*, LXXVI no. 889, January 1995, 4-18, who in turn follows Lonergan, Bernard, *Method in Theology*, London: Darton, Longman and Todd, 1971, Ch. 1.

discerning. The critics can build a singer's reputation or destroy it overnight.
 Steane on Carreras:

He sang, as before, within severe limitations of range, repertoire and expressive resources... he still has them [the audience] held. He offers no high notes, no operatic arias, no tricks of personality or presentation; his voice is now by no means beautiful in quality or strikingly individual in timbre (2000, 94).

This would seem to be little more than the emotional outburst of one who probably has little if any technical knowledge of the aging voice. Steane writes, '[she] left one wishing that she would assiduously avoid the tendency to an edgy shrillness...' - what does he mean by edgy shrillness? (ibid. 96). Of yet another singer, he says 'the singer was able to infuse her well-defined tones with some smiling warmth'; again, what does this mean? (ibid. 96). He continues, 'There is a thrill in her voice, which is capable of the gentlest tenderness and also catches the rhapsodic ecstatic note never far below the surface' - technically, what does this mean? (ibid. 96). Should the critic express a point of view without always justifying it? Siepmann comments, 'The only interesting thing about Tchaikovsky's opinion of Brahms is that it came from Tchaikovsky - and it tells us a lot more about Tchaikovsky than about Brahms' (2000, 3).

But where does one pitch a review? On the one hand, it should be encouraging, but on the other hand, it should be honest - not everything is always wonderful. Swanwick makes certain suggestions that could be used by critics as a basis for their assessments:

If we are really listening to music, we are bound to attend to sonorities, to the management of sounds: the secure control of instruments - the quality of tone itself; we are also conscious of the character of music...we also look for coherence, ways in which musical gestures 'hang together', evolve, relate, contrast, find a sense of direction, where the music is 'going' (1991, 140).

The agent

The Cardiff Singer of the World is among many competitions, which attract agents; they are saved time and money by having such a wealth of talent in one place at the same time.

Will it sell? is their question, and they may well be guided by audience reaction as much as by anything in the performance as such.

The festival adjudicator

For students some kind of assessment is appropriate, even essential, particularly with regard to self-esteem, motivation, knowledge of achievement and awareness of success. Apart from the encouraging teacher, peer group performances, concerts and examinations, competitive festivals have a place. Some pupils are more competitive than others and derive more benefit from festival competitions.⁴⁷

We have dealt with the ethics and psychology of this, but now we are concerned with the evaluations offered.

Competitors rely on the adjudicator for help - it is not a 'pass/fail' situation. The principal aim is celebration, with the bonus of some education through performance and listening.⁴⁸ Personal feelings, on the part of the adjudicator, should not influence professional assessment. Here we move into the realm of tangential 'aesthetics'. This is more than a musical matter: assessors of performance may be swayed by the personal appearance of the candidate; race and gender may be included here. But what is a person's attractiveness? Is it physical characteristics, behaviour, dress, personality?⁴⁹

The written report should be constructive, containing some praise and encouragement. One or two areas can be dwelt on in the instance of a totally disastrous performance, though not everyone will take the advice offered. Criticism

⁴⁷ See further, Kay, Graeme, 'Competitions', in Ford, Trevor, ed., *The Musician's Handbook*, London, Rhinegold Publishing, 1996.

⁴⁸ See further, Cunningham, Sara, 'Judge and jury', *Classical Music: competitions supplement*, 2003, 9.

⁴⁹ See further, Wapnick, Joel; Alice Ann Darrow, Jolan Kovacs, Lucinda Dalrymple, 'Effects of Physical Attractiveness on Evaluation of Vocal Performance', *Journal of Research in Music Education*, XLV no. 3, 470-479.

of the teacher must be avoided and also criticism of the venue. Cohen quotes Nelson as saying,

Most competitions fall down on the quality of the adjudicators...they pay very little money to adjudicate at festivals, so the standard varies. The adjudicator is not God. I have heard people tell students 'you are just unmusical' (2001, 6).

However, Bonney comments on competitions such as Cardiff Singer of the World that, 'This gives these kids a chance to have a platform - it's a matter of just being seen' (cited Flind, 2001, 96). From the agent's point of view, no doubt it is. But it may be hoped that some participants will regard the occasion as an opportunity to hear experts comment on their work. It may be doubted whether they always receive this. Indeed, the question how far adjudicators of voice need to be experts in the field is a vexed one. While a clarinettist may have no difficulty in deciding whether or not he or she enjoyed a vocal performance they may well have no appreciation of the mastery of technique required to negotiate the vocal registers in a tricky piece - any more than a voice teacher may understand the challenges of negotiating the break in the clarinet or the alternative fingerings available in presto sections. Where singers are concerned there is a more sombre consideration to be pondered. Since so many professional singers drop out of the profession in their thirties, having ruined their voices, one would hope that at festivals, like Cardiff, where budding professionals perform, tell-tale signs of trouble ahead would be noted by at least one adjudicator. There is no record of this ever being done, yet the signs, for example, head and neck tension, incorrect breathing, are there for those in the know to see.

As stated above, the principal aim of the festival is celebration but such occasions also contribute towards aesthetic education. Leonhard says that there is a crying need for aesthetic education through music,

Aesthetic education is taking place when human beings (and students are human beings) have experiences with music that enliven their spirits, touch their hearts and enable their feelings to soar (1971, 6).

There are some dangers in competition, for example, if the competitive element is over emphasized. There can be cut-throat rivalry between contestants-teachers; too much attention may be paid to the marks and too little to the adjudicator's comments; the adjudicator may over- or under-praise; there may be pressure on the adjudicator to mark highly.

Most of the above considerations apply to the conduct of workshops and master classes, though in these a more intentionally educational emphasis is normally expected.

The examiner

It is vital to remember that graded practical examinations are a means to an end and not an end in themselves. The main purpose is to encourage the development and further the skills and musicianship of students. As with competitions, the preparation helps motivation, concentrates the mind and should result in success. Thus examinations and competitions can be justified.

It goes without saying that examiners should be persons of knowledge, experience, perception, sensibility, and sound judgement, and able to put candidates at their ease, and able to make a positive contribution to the situation. Impartiality is the keyword for Associated Board examinations. This particular examining board uses non-specialist examiners for Grade 1-8 - in order to assess the musical outcome of a performance rather than the means by which it is achieved.

Examiners are able to influence teachers by providing independent advice, for although the examiner's report is written as to the student, such a comment as 'Take care over your diction' should serve as a clue to the teacher.

But there are always examiners with pet ideas, for example, those who wax lyrical about releasing the creative impulse: an admirable idea, but one seldom demonstrated. Some confine themselves to only one aspect, which is frustrating for the candidate who has gone to great lengths to produce a 'whole' performance.

Jenkins cites a music teacher who was concerned with the marking of grade examinations. She had accompanied, at the piano, a pupil of a colleague in the examination. On later receiving a copy of the examination report, 'she was startled

to find that the candidate had been given full marks for pieces, scales and arpeggios. The pupil had done well - but surely not *that* well, she thought' (2002, 5). Beniston makes it clear that:

The aim is to learn to play the instrument, and the exam is a way of sampling the process against the carefully worked out standards and criteria. The service provided by the examiner is to decide if the sample of work heard has yet reached that set out in the criteria (2001, 4).

This applies equally to singing.

The teacher

It may be hoped that voice teachers will increasingly understand the ramifications of performance evaluation. As has become clear, this is a multi-faceted activity which ideally turns upon a sound knowledge of anatomy and physiology (not least because the adjudicator must watch as well as listen). Some understanding of the acoustic properties of the venue is called for, because these may assist or hinder the performer. (In particular teachers should be aware of, and prepare their students for, the adjustments which they will have to make when transferring their performance from the confines of a voice studio or practice room to a larger hall). Detailed knowledge of the songs performed is required, in relation to their type, structure, historical context, and language; and in regard to the technical challenges which they pose. In offering a performance evaluation regard should be had to the insights derived from developmental psychology in so far as these relate to the age and experience of the performer. The psychology of interpersonal relations also comes to the fore, especially since the voice belongs to the person in a way that no other instrument does. Closely related are the ethical considerations posed by the question, 'What *ought* I to say?' - a question which concerns both the content and the manner of the verdict expressed. Finally, philosophical questions arise as teachers reflect on the grounds of their aesthetic judgments and the meaningfulness or otherwise of the language in which they are

expressed. Properly conducted, the act of performance evaluation will contribute in terms of content and example to the aesthetic education of students.⁵⁰

It is not too much to say that such evaluation at its most competent is fertilized by all of the disciplines with which this study has been concerned. This consideration ushers in our Conclusion.

⁵⁰See further, Plummeridge, Charles, 'Aesthetic education and the practice of music teaching', *British Journal of Music Education*, XVI no. 2, July, 1999, 115-122.

CONCLUSION

The Introduction to this study took as its starting point what actually happens in a voice studio, in particular, identifying that a constellation of disciplines is involved in classical singing pedagogy. We further noted that while a considerable amount of research has been undertaken within each of the disciplines, the implications for vocal pedagogy are not always drawn out. This was not an adverse criticism of specialist works devoted to, for example, ethics, science, and aesthetics, but it did suggest the desirability of bringing the relevant disciplines together for the first time within one study with a view to showing that, how, and at which points they contribute to classical singing pedagogy, and frequently do so in mutually supportive ways. The reason for undertaking this study was that if the disciplines in question are indeed relevant to singers and their teachers, if there is more to educating singers and teachers than simply training their voices, then the several disciplines should take their place in the educational process.

Underpinned by substantial personal experience over many years, a research method typical of the Humanities has been adopted in critically analysing a considerable body of published material relevant to each of the disciplines under discussion, with the aim of demonstrating by reasoned argument the thesis, 'that a holistic education entailing multi-disciplinary study is essential if classical singers and vocal pedagogues are to be prepared adequately for performance, for their teaching role, and for cooperation in inter-professional relations'.

It remains to draw the findings together with a view to noting some of the practical implications which flow from them.

In the first chapter the historical roots of the many teaching methods available today were explored. It was apparent that some of them paid greater heed to a freely functioning vocal mechanism than others. Knowledge of traditions of technique can be a useful aid when faced with a singer in distress; the particular damaging aspect of technique can easily be spotted. However, personal and

anecdotal experience show that many traditional methods are being taught indiscriminately, without considering whether they are soundly based in theory and conducive to vocal health. So many of the conventions have been passed down by imitation and, as we have seen, what is physically appropriate for one person may be damaging for the next. Similarly we have found that the imagery, useful and appropriate in interpretation, can be meaningless and damaging when teaching technique. Voice teachers should be encouraged to realize that some understanding of the history of vocal pedagogy and its traditions and legacies is an important part of their equipment.

In exploring the scientific and medical aspects of the history of vocal pedagogy, we found that while some things have changed, others have not, and yet others have developed from very sound scientific roots. Immediately, we found the disciplines overlapping and interweaving.

It became clear that ethical considerations impinge upon vocal pedagogy at a number of points. Indeed the very first question, 'Ought I to teach?' is an ethical question. Accordingly, an understanding of the basic principles of ethics was shown to give the teacher a sound basis on which to make moral judgements in business, in relationships with students, parents, professional performers, other musical colleagues and other professionals.

It is easy to appreciate the value of the knowledge of general psychology as a basis for the more specialized branches of that discipline applicable to vocal pedagogy: an understanding of emotion in its physiological, cognitive, social, and personality aspects; cognition and all its branches; physiological and social psychology; developmental and musical psychology. Practical application of this information is vital in the teacher's relationship with pupils of all age groups, parents and other professionals. We have seen that a grasp of basic psychology can also alert the teacher to possible psychological problems in the student which may need help from a practitioner qualified in that field - the teacher here acting as an early warning signal. It goes without saying that in such situations tact, sensitivity and understanding are called for; at no point should teachers attempt to deal with problems for which they are unqualified; we are back to the close connection between ethics and psychology once again.

Turning to the contribution of science, it was encouraging to find that polarisation between voice studio pedagogy and voice science is on the wane although there are areas of debate still to be found. With a wealth of information about the physical function of the singing voice teachers are more easily able to diagnose and remedy vocal faults, and advise the student to consult a medical practitioner if a potentially serious problem is presented. As mentioned above, problems should be handled with discretion and confidentiality, and, unless also medically qualified, voice teachers should not offer medical diagnoses. Brandfonbrener worries that,

some teachers who appear to feel that with reading, and a workshop or two they have sufficient information to themselves make medical judgements. It is critical that we, as medical practitioners and they, as performance teachers learn to operate within the limits of our own area of expertise. Neither should oversimplify the material from each other's domain. A therapeutic alliance is the ideal solution and while often it may require equal doses of diplomacy and hard work, it is a goal well worth the effort to promote (2002, 41).

We have seen how important adequate knowledge of anatomy and physiology is as an aid in determining what is an efficient and non-damaging vocal technique. The implications are far reaching; they concern correct posture, competent breathing technique, correct use of the laryngeal area and the resonators. It would be a great pity if teachers and singers were to ignore the value of state-of-the-art scientific instrumentation which is becoming more readily available. As we have seen, this assists in the assessment of vocal performance and progress and may sometimes reveal a problem not noticed by the singer or teacher. Advice on general health care surfaces during the study of vocal science, in particular, how to care for the vocal instrument. We should do well to remember the testimony of those laryngologists who say that they have fewer singers in their clinics from studios where the teachers have been adequately educated in basic vocal health and hygiene.

Turning to vocal technique, the most important result of this study is to note the overriding importance of efficient, healthy technique. The message coming

over loud and clear from medical practitioners who have to deal with serious vocal abuse is, 'Change your teacher'. Without a sound technique artistry is inhibited and a short career predicted. To whom does the singer look when this choice has to be made? Surely, the obvious answer must be that the singer chooses the teacher who has the necessary soundly based knowledge that a multi-disciplinary training has provided.

A number of specific points of technique, among them, onset and release, breath management, and resonating factors, were discussed with a view to showing how results consistent with anatomical and physiological factors can be achieved. Without efficient vocal technique, a performance may be disappointing both to performer and listener. But technique alone is not enough; in the preparation for performance there is much to be learnt. Preparation (among other things, history, performance practice, languages) and positive, useful practising are vital. Imagination has to be stimulated and cultivated, the conveying of emotion has to be learnt - at which point psychological knowledge comes in again; so too does history because knowledge of a song's period, and style further stimulates the imagination.

So many skills have to be acquired for dealing with the actual performance, the programming of recitals, and working with an accompanist. The teacher needs to know how to teach the song or aria accurately, including rhythm, languages, diction, phrasing and tone colour. Without an education in aural skills, theory, composition, listening and performance studies and standards, it is difficult to see how this can be achieved. Appropriate repertoire for the individual student has to be chosen. The pupil has to learn how to memorize, how to communicate, how to deal with auditioning, publicity, performance venues, radio and television, and importantly and commonly, how to deal with performance anxiety.

More and more we began to see the broad scope of the education of the singer and singing teacher. More and more frequently we saw that the several disciplines mutually inform one another.

Finally, there is the evaluation of performance. We saw that teachers are constantly evaluating the performance of their pupils, and reacting to the assessments of examiners, adjudicators, critics, and agents. They may also be called

upon to serve in these latter capacities from time to time. How useful, therefore, to have a basic background in aesthetics, particularly, of course, music aesthetics, in order to contemplate the language of, and basis for, the assessment of the performances they witness or criticize.

Implications for educating the singer and singing teacher

If all the disciplines referred to above are pertinent to the education of singers and singing teachers then they should be included in the training of singers. However, Freed has this to say,

The conflict between the scientific and empirical may also continue because of the hiring policies of departments or schools of music. Read the latest advertisements for job listings in voice. Some institutions place an emphasis on pedagogy and scholarship in addition to performance. Other institutions have advertisements like this: "Associate professor of voice. National reputation; outstanding singer with a professional performing career; must be dedicated to teaching." Singers with the performing careers, having little training in pedagogy, may be able to sense what is right in singing for themselves, but what about teaching the beginning student? (Freed, 2000, 10).

Kemp delineates the problem with which this thesis is concerned.

That the processes of learning to sing are so subjective seems to encourage a plethora of contradictory theories, which may leave singers, at best bemused, and at worst, highly anxious and constantly unsure about whether they are performing correctly or doing themselves untold damage. Singing students may well find themselves moving from teacher to teacher in constant search for a 'guru' who, by use of a particular form of metaphor, somehow manages to 'speak their language'. This whole process may be very anxiety provoking (2000, 174).

Happily, there are ways to go about improving the education of singers and singing teachers. Courses which include all of the above disciplines could be established. Some conservatories and universities are attempting this, but none, as yet, includes

all the disciplines. Admittedly, conservatories do not have medical schools, but most have universities as their validating bodies, and there could be interchange of medical students to vocal pedagogy classes and singers to anatomy and physiology classes. Similarly, there could be facilities for singers to attend psychology and aesthetics classes in other departments. The plea that there is no time for all of this does not hold if one accepts the conclusions of this study, namely, that efficient, healthy vocal function is paramount for all singers and that a wide spectrum of inter-acting disciplines is vital to achieve this.

Many professional societies in Britain, in Europe and the United States are leading the way in the study of vocal health and its application for the professions. For example, The International Society for the Study of Tension in Performance is pioneering a diploma course to train *Music, Medicine Therapists*. It is offered to singers and instrumentalists. This course is the most holistic of all available at the moment; faculty consist of specialist medical practitioners (rheumatologists, neurologists, laryngologists, orthopaedic surgeons), psychologists, musicians, a voice consultant, an actors' coach, a Feldenkrais teacher, an Alexander Teacher, osteopaths, physiotherapists and a podiatrist. While some disciplines are unrepresented, the overall range of expertise is exceptional. Refresher courses for practising teachers are also available. For example, in the United Kingdom, those under the auspices of the Associated Board of the Royal Schools of Music (Cert ABRSM); and the University of Reading in collaboration with the Incorporated Society of Musicians who offer a Diploma Course in Music Teaching in Private Practice. Some of these lead to a formal qualification, but to date none of them covers all of the required disciplines. There is an extremely valuable contribution being made by the staff of voice clinics, some of which encourage participation in assessment and healing practices by other professionals, including voice professionals, and are extremely successful in rehabilitating the sick voice. However, unfortunately, by the time the assistance of such professionals is sought the damage has frequently been done, and very often the singer is at a loss to find a teacher who can effectively build upon the good work done at the clinic.

In the light of the argument advanced in this thesis we are now in a position to frame some specific training suggestions. A comprehensive study of

theory, harmony, aural skills and language training is taken for granted. In addition, a scheme of study for singers and voice teachers (for the roles frequently overlap) might include:

1. The acquisition of an efficient, healthy, freely functioning singing voice based on sound technique.
2. The history of vocal pedagogy (which, reveals the fact that a scientific approach to the voice is not a late twentieth century novelty) and which includes the several vocal techniques and their tonal ideals.
3. The ethics of professional practice.
4. General psychology and those branches of the discipline which directly apply to vocal pedagogy, especially developmental psychology.
5. The anatomy and physiology of voice.
6. Vocal science, including acoustical science as it relates to the voice, and the acquisition of familiarity with scientific equipment related to voice.
7. Vocal health and hygiene, including attendance at relevant courses in medical schools and observation at multi-disciplinary voice clinics.
8. The study of voice techniques for all age groups.
9. The preparation for performance, including: interpretation inspired by general musical appreciation, knowledge of skills, styles and other distinctive attributes of the various composers; the subtleties and sensibilities of poetry; rhythm; languages; IPA; performance practice (the authenticity debate); diction; aural skills; theory; composition; communication skills; working with a conductor and an accompanist.

10. Business and management skills for performing: performance venues; advertising; auditioning; working with an agent; recording; radio and television performance.

11. Dealing with performance anxiety.

12. Training in the Alexander Technique.

13. Attendance at concerts, recitals, opera, listening to recorded music, visits to multi-disciplinary voice conferences, singing conferences and courses, master classes and voice workshops.

14. Immersion in philosophical aesthetics and musical aesthetics as a basis for well-grounded evaluation of performance, for example by critics, adjudicators, examiners, and teachers.

15. Student recitals during the course of study, the performance accompanied by pedagogical/programme notes. In this way the student would see how the several contributions of many of the disciplines are brought to bear on performance and pedagogy.

In the light of the foregoing suggestions we may now conclude that if voice teachers are required to handle psychological, ethical, and aesthetic questions; to have a sound knowledge of anatomy, physiology and voice science as it bears upon vocal pedagogy; to have a grasp of developmental psychology in relation to curriculum planning; to be well versed in musicianship, interpretation, and communication - all of which entails a knowledge of history, theory and language; and to be competent in performance for the purposes of demonstration, then these ingredients should be present in the training of voice teachers and singers generally, many of whom also teach, or take up teaching following a performing career.

Implications for inter-professional co-operation

An endorsement of competence by such professional bodies as The British Voice Association or The Association of Teacher's of Singing in order for singing teachers to be able to work alongside other voice professionals, would facilitate a greater degree of inter-professional cooperation and give other professionals confidence in their singing teacher colleagues. Such endorsement would be based upon the presentation of full course transcripts (to ensure that all relevant disciplines have been covered), and not simply upon diploma or degree certificates.

For their part doctors and medical students should be encouraged to be aware of performing arts medicine as a specialty. Ten years ago Hewer and others argued the case for 'multi-disciplinary, directly-interactive teams' in the diagnosis and treatment of voice disorders in professional singers (1993, 25-26). The special perspectives and skills of the otolaryngologist, speech-language therapist, voice scientist, nurse and singing teacher are complementary and necessary for the successful rehabilitation of the singer. There is such a wealth of knowledge on the various voice specialisms published each year that it is impossible for anyone to know all the information in another's specialist field.

It is recognized that at present voice science laboratories and fully staffed voice clinics are not to be found in all areas, and that the lack of funding is a serious impediment to developments in these fields. It is also the case that problems of confidence in voice teachers as professionals cannot but arise from scientific and medical quarters when persons can set up as voice teachers with a pass at Grade 5 - or lower. (All laryngologists have done more than scrape through GCSE Biology). It would be well to have a separate compulsory paper on vocal pedagogy in every examination for a voice teaching qualification. It is highly desirable that all voice-training establishments offer a sound pedagogical course grounded in vocal science. If the reply is that funding and/or availability of personnel will not permit this for just a handful of singers, then the benefits to be derived from a voice course by wind instrumentalists whose breath management may be inefficient may be explained. Furthermore, if we wish to foster a culture of inter-professional co-operation, we ought seriously to consider the possibility that

as an essential element of their training, voice students in music departments, conservatories and private studios, together with students in such cognate disciplines as voice science, medicine and speech and language therapy, learn together in team taught voice laboratory sessions.

Coda

When the initial training is complete the learning process is barely begun. It is vital that singers and voice teachers continue to study: new discoveries are frequently reported in the professional journals, in new books, and in papers presented at conferences. The benefits of constant study and practice in one's own performing and in one's own teaching will increasingly be manifest.

As we saw at the outset, almost three hundred years ago Pier Francesco Tosi wrote,

It may seem to many, that every perfect Singer must also be a perfect Instructor, but that is not so; for his Qualifications (though ever so great) are insufficient, if he cannot communicate his Sentiments with Ease, and in a Method adapted to the Ability of the Scholar...(cited in Galliard, 1968, 160-161).

Today there is more understanding of the disciplines contributing to vocal pedagogy than ever before. One can only hope that training courses for singers and singing teachers will reflect this fact, and that aspiring performer/teachers will approach their multi-disciplinary studies with zeal.

APPENDIX 1: SUPPLEMENT TO CHAPTER 1

a.

Historians of vocal pedagogy have proposed various ways of dividing the subject. For example, von Leden (1997, 7) specifies 'four cultural phases' of voice production. First comes 'the fictitious or mythical stage' including folklore, magic, supernatural and religious phenomena; secondly, 'the metaphysical stage... knowledge was based partly on observation, but mainly on speculation'; thirdly, 'the traditional stage' where information was 'based on tradition or revelation, on the great authorities of the ancient world, and on the great Fathers of the Church'; and lastly, the realistic stage, beginning with the Renaissance, in which 'Knowledge was based on actual observation, experimentation, and coordination'. Presumably the final phrase concerns the relationship of voice production and medicine. While such a scheme has some credibility, it must be understood that the categories suggested by von Leden are not absolute. There are always time lags and overlaps in the development of any discipline.

Solo singers have always been to the fore: cantors in the chant, Minnesingers, troubadours, trouvères, followed by Meistersingers, and the English singer-lutenists. Then came the 'birth of opera' at the beginning of the seventeenth century with each decade making increased technical demands on the singer, mainly determined by the composer, but often by the audience. Vocal scores show the evidence for this. Thus Miller says that

The Mantuan Monteverdi of *Orfeo*, 1607, is not the same as the Venetian Monteverdi of *Il Ritorno d'Ulisse*, 1641, nor of *L'incoronazione di Poppea*, 1642... The vigor and intensity, particularly of the *Poppea* roles, are reflected in the mounting vocal demands of range, agility, and *sostenuto*, far exceeding those of the first decade of the century (1997, xv).

As history moves on, the demand for ever greater technical ability continues to be made as we shall see; hence the need for impeccable voice teachers.

Early History

Pre-history is inevitably based on inferences drawn from anthropological, ethnological and archaeological studies. These leave us to surmise that the historical tradition of singing handed down was oral: for example, mothers singing lullabies to their babies and children copying their elders in tribal, ritual and religious chants. The oral tradition may have continued for thousands of years. Only with the advent of literacy can we be a little clearer as to what was demanded of a singer, and even then scholars are in disagreement as to how the music sounded. Accounts of singing performance written before the nineteenth century

of a singer, and even then scholars are in disagreement as to how the music sounded. Accounts of singing performance written before the nineteenth century have to do with the authors' tonal preferences rather than with the technique required to achieve the desired sound.

All that we can discover about the music of ancient Greece and Rome is from some fragments of Greek music. Scholars are not in total accord as to how this music sounded. From Rome there are no authentic remains; we have to deduce from accounts of performances and certain literary sources what the music and singing was like. Duey (1979) suggests from the literary evidence of Homer and Hesiod that the singing was improvisatory.

The writings of Plato (427-347 BC) and Aristotle (384-322 BC) tell us that music and vocal art played an important part in education, although there does not seem to be any concept of singing technique as such. Many of the terms used to describe poetry are applied to singing, as might be expected given that poems were often recited accompanied by the lyre, and that the word 'ode' is derived from the Greek word which means 'to sing'. It has been suggested that orators moved from spoken sound into singing sound in order to be heard. Plato was concerned that there should be a certain amount of decorum in the production of singing; it must not be too florid or showy. He suggested that rhythm and harmony should follow the words and not the reverse, 'song consists of three elements: words, musical mode, and rhythm', and in answer to the query, 'the musical mode and rhythm should fit the words?' he replied, 'Of course'. (*Republic*, III, 398). He did not want the enjoyment of singing for its own sake, but rather that the music should encourage an uplifting of the soul. Elsewhere he declared that 'the figures and melodies which are expressive of virtue of soul or body, or of images of virtue, are without exception good' (*Laws*, II, 655).

As early as the fourth century BC Aristotle had appreciated the relationship of breathing to phonation. In his opinion:

Voice is a sound made by an animal, and that with a special organ... everything that makes a sound does so by the impact of something (a) against something else, (b) across a space, (c) filled with air; hence it is only to be expected that no animals utter voice except those which take in air... The organ of respiration is the windpipe, and the organ to which this is related as means to end is the lungs... Voice then is the impact of the inbreathed air against the windpipe, and the impact is the soul resident in these parts of the body (*De Anima* II, 8).

He goes on to explain his theories of differing voice qualities as follows:

Not only structural variations in the organs of speech make a difference to the voice, but also their condition. When the lungs and windpipe are full of moisture, the breath is impeded and does not pass out continuously, because it is interrupted and becomes thick and moist and difficult to move, as happens in the case of a catarrh and in drunkenness. If the breath be absolutely dry, the voice becomes rather hard and dispersed... (*De Audibilibus*, 801a).

In addition to its Greek and Roman inheritance, vocal pedagogy is greatly indebted to the Judaeo-Christian tradition. Thus we find that the Old Testament contains numerous references to singing, and that parts of it were sung, particularly the psalms: 'the singers sang and the trumpeters sounded' (2 Chronicles 29: 28); again, 'I got for myself minstrels, male and female' (Ecclesiastes 2: 8). There is the Song of Deborah (Judges 5) and Miriam's song of triumph (Exodus 15: 21). The singers were often accompanied by dancing and by musical instruments.

Reliable sources find that the earliest Christians sang the great New Testament hymns in their worship, for example, the Magnificat, the Nunc Dimittis and psalms, hymns and other songs: 'speak to one another in psalms, hymns and songs; sing and make music from your heart to the Lord' (Ephesians 5: 19). The melodies were probably Hebrew as used in the synagogue. In the book of Revelation there are many references to singing, not least in connection with John the Seer's vision of the New Jerusalem: 'and they were singing a new song' (Revelation 5: 9).

According to Falkner, by the time of Plutarch (46-120) 'technical facility was by then apparently in decline'. He goes on to quote Plutarch, '... our men of art... have brought into the theatre a sort of effeminate musical prattling, mere sound without substance' (1983, 3).

The early Fathers of the Christian Church were mostly responsible for the preservation and transmission of what is now called western music (Wilson-Dickson, 1992, 26). They, like Plato, warned against the vagaries of excessive vocal display, Clement of Alexandria being particularly keen to advise Christians to 'reject superfluous music, which enervates men's souls, and leads to variety, - now mournful, and then licentious and voluptuous, and then frenzied and frantic' (*Stromateis*, VI. xi). Eventually, owing in the main to the Christian chant style, objectives in relation to pitch and tone colour were specified, though without guidance on how to achieve the desired sounds (Potter 1998).¹

With the growth of church music, in particular plainsong, a school of singing was founded in Rome, supposedly by Sylvester (Pope 314-336). Congregational singing had been prohibited by the Council of Laodicea in 367; hence the rise in importance of trained choral singing in church services. The establishment of more singing schools by monks followed, in which candidates for the priesthood received vocal training.

There was a certain amount of theorizing which tended to demote the performer and promote the philosopher. Boethius (c. 524), along with other theorists, protests that the philosopher who contemplates is the real musician with the composer and performer ranking second and third. Duey (1951) suggests that this view was in vogue for almost one thousand years. Nonetheless, Pope Gregory the Great (c. 540-604), drawing upon influences from other Mediterranean music, particularly Jewish, developed what became known as Gregorian Chant. He founded or reorganized the first singing school, the Schola Cantorum in Rome. Here priests and monks were taught how best to sing the music of the Christian church. It has been suggested that the aim of the teachers was to achieve a mellow sound that blended readily with other voices. Eventually, Charles the Great (740-

¹ See further, Potter, John, *Vocal Authority*, Cambridge, 1998.

814) founded singing schools in most of the European monasteries, cathedrals, greater churches and chantries.

Isidore of Seville (570-636) wrote in his *Etymologiarum sive originum libri*, XX (7th century) of what he considered to be unpleasant singing voices. He compared them with the tonal qualities of musical instruments, 'penetrating voices, like the sound of trumpets... sharp voices, as we observe in strings... a hard voice, like the sound of an anvil' (cited, Grove, XVII, 1980, 339). His 'ideal' singing voice was, 'high, sweet, and strong', as it has been the 'ideal' of many critics throughout history (ibid). The achievement of this ideal was a prominent objective of the voice teachers.

Duey tells us of the attention the ancients paid to vocal hygiene and gives many examples (1951, 19). For medicine he refers to Galen (130-200), citing Gordon Holmes:

They include tragacanth, squill, turpentine, styrax, horehound, myrrh, poppy-seeds, pepper, frankincense, cassia... mixed with wine or honey and were sometimes boiled down, cooled, and made into lozenges to be held under the tongue and dissolved (1885, 49).

Careful diets and careful living were important: 'Quintillian [b. 30-5] mentions the fact that an easy digestion is essential both to the singer and orator', (cited, Duey, 1951, 20).

Middle Ages and Renaissance

Before the ninth century music notation was undeveloped, and consequently the singer's entire repertoire had to be learnt from memory. It is suggested that it took ten years to train the monastery singer in the unison singing of the liturgy. When Guido Arezzo (c. 991-1033), a legendary pedagogue who trained singers in monasteries, devised his famous system of precise pitch notation, singers were able to sight-sing their parts accurately, at greater speed, and much less memory work was necessary. All these aspects contributed to a shorter training period, and more especially, the development of polyphony was encouraged because singers were able to identify pitches accurately, probably aided by the fluidity of monodic melodies. But there was a sting in the tail, for Arezzo's simple method became extremely difficult if the range of the melody was beyond a hexachord, so he devised a system of four different related pitch hexachords through which singers could move by 'mutation' or 'modulation'. His system can be compared with the movable 'doh' used in tonic solfa today. This complicated table, known as the *Gamut*, had to be learnt from memory, both backwards and forwards, before singers could progress to singing melodies.

Pedagogical treatises were rare until the middle of the sixteenth century. Until that time they were for the most part limited to such basic theoretical matters as notation, scales, intervals and rhythm. There is pictorial and literary evidence of singing, although pictorial evidence is difficult to interpret. According to Falkner 'Voice registers were recognized, chest, throat and head, but much of vocal music

handed down to us covers only an octave, occasionally a twelfth' (1983, 5).² This is a very narrow range similar to the vocal compass of sung folk music. Many medieval writers were quick to criticize the shortcomings of the voices they disliked and the Church objected, yet again, to over-embellishment by singers.

The eleventh century singer/poet/composer troubadours of the south of France and the trouvères of the north were followed by the Minnesingers and the Meistersingers from Germany and the minstrels and gleemen in Britain. Many of their songs were improvised and comprised, for example, love-songs, political songs, pastourelles, romances and puzzle songs. These were often accompanied by the singer on a single instrument, either viol or harp. Sometimes the singer would alternate voice with instrument. The role they played in medieval life was that of itinerant entertainer, females included; they might even be called professional entertainers. They continued into the early sixteenth century alongside the madrigal singers from the fourteenth century. Unfortunately, we have no literature on actual teaching methods, and nothing is known about tonal qualities or interpretation.

There is, in the twelfth century some reference to breathing, but mainly in the context of phrasing - where to take a breath. But, as is usual throughout the centuries, there was much literature concerning incompetent singers: 'In the barking of their brawls they roar higher than the ass's braying, and blare out more terrible than the uproar of beasts, and spew out bedlam.' (cited, Duey, 1951, 35). These are words by the ecclesiastic Arnulfo in the twelfth century. There was much conflict between the clergy who wanted music to be part of divine worship and the singers themselves who regarded music as an art form in its own right and wanted the freedom to compose and perform rather more artistically with the improvisation of embellishment and ornamentation. This made much greater demands on vocal technique in many aspects, particularly those of agility, breathing efficiency and imagination. Raynard, Abbot of Citeaux (1133-1151), declares that 'It becomes men to sing with a masculine voice, and not in a feminine matter, with tinkling, or as is popularly said, with false voices to imitate theatrical wantonness' (ibid., 41). Is this an early comment upon the male falsetto voice?^{3 4}

Music theorists suggest that the range of the voice in the thirteenth to fourteenth century was expected to be two octaves, possibly in the male voice F2 - F4 (USA Standards Association).⁵ Between the latter part of the thirteenth century and the beginning of the fourteenth century notation was refined. The new art of motet writing, *Ars Nova*, utilized more short notes per bar than hitherto. Fifty years or so later, more items, such as time signatures and the transference of the fourteenth century semi-breve and minim to crotchet and quaver became the norm.

² See further, Reid, Cornelius L. and Donna S. Reid, 'Eighteenth-Century Registrational Concepts,' *Journal of Singing*, LVI no. 4, March/April 2000, 31. The Reids write of Johannes de Garlandia (ca. 1193-1270) who spoke of *vox pectoris*, *vox guttoris*, and *vox capitis* (chest voice, throat voice, and head voice).

³ ibid, 31. Marchettus de Padua describes two distinctive and different 'voices': *vox integra* and *vox ficta* (chest voice and falsetto). The meaning of 'falsetto' is not made clear.

⁴ Over the centuries there have been many differing understandings of the word 'falsetto'. Here I use the term as descriptive of the counter-tenor or male alto sound.

⁵ Pitch indications follow those recommended internationally by the Acoustical Society of America where middle C is C4, as opposed to the Helmholtz system which has middle C as C1.

As singing revived expression was uppermost in the minds of composers. What was heard in the voice revealed the feeling in the mind - interpretation was coming to the fore.

With the beginnings of the Renaissance in the fifteenth century, the art of the singer/composer became increasingly sophisticated and the average musician found great difficulty in reading the complicated music notation of the song literature. Hence a simpler notation was necessary but this was slow in its development.

Günter (1997, 9) proposes that the first printed book about singing was the German Conrad von Zabern's *De modo cantandi choralem cantum* (1474). He was professor of theology and choral director at the University of Heidelberg, and Günther quotes him as saying,

After having read this book the teacher will give better voice lessons in the future... It is not enough if the singers sing the right notes and the correct intervals. To sing well requires more and only expressive qualities make good singing (ibid., 9).

According to MacClintock von Zabern lists

Six requirements for good singing:

1. Concorditer (to sing with one spirit and accord)
2. Mensuraliter (to sing in proper measure)
3. Mediocriter (to sing in the middle range)
4. Differentialiter (to sing with discrimination)
5. Devotionaliter (to sing with devotion)
6. Satis urbaniter (to sing with beauty and refinement) (1979, 12).

As the fifteenth century progressed, although the vocal folds were not yet studied, much was discovered about the mouth, throat and lungs in relation to voice production. Adam de Fulda (c.1490) says,

Voice is the sound formed by striking the teeth with the tongue as a plectrum, by striking the two lips like symbols, by the hollow of the throat and the lungs which aid in the formation, and which, like a pair of bellows take in and send out air (cited, Duey, 1951, 32).

What is noticeable here is the beginning of an advance upon the phoniatrics and vocal science bequeathed by the first laryngologist, Galen (130-200) thirteen centuries earlier.

Stevens suggests that, 'the appeal and personality of a fine solo voice was as great in those early centuries as at any other time' (1971, 70). Gaffurius in his *Practica Musicae* of 1486 (cited, MSD, xx, 1968, 148ff) writes of the kind of singing not admired,

Singers should not produce musical tones with a voice gaping wide in a distorted fashion or with an absurdly powerful bellowing... moreover they should avoid tones having a wide and ringing

vibrato, since these tones do not maintain a true pitch and because of their continuous wobble cannot form a balanced concord with other voices (cited, Grove, XVII, 345).

As today, bellowing and a widely oscillating vibrato was deemed an example of poor technique and unpleasant to hear. On the other hand, it appears from music written in the period from Dufay (1400-1474) to Palestrina (1525/6-1594) that there were also trained singers who were highly accomplished in breath control, passing through the register changes smoothly, and with vocal flexibility.

As acknowledgement of the arts, most particularly amongst the nobles, broadened with the Renaissance, and self-expression in all art forms became a widely held aspiration, many composers broke away from the rather more formal approach of motet writing to a freer form of melody writing which encouraged rather more emotional depth. Such melodies were sung by soloists with accompaniment on the lute. The art of singing developed as more importance was given to individual singers/performers, and as increased technical demands were made upon them.

The German, Hermann Finck, in his *Practica Musica* (1556) writing about polyphonic singing, demanded sweetness, 'elegant' and legato singing, 'elegant' meaning the execution of some of the long white note-values of the melody by breaking them down into shorter black notes - hence the term 'divisions'. This was also practised at about the same time in Italy, by Bovicelli, and Zacconi, among others, and by, the Frenchman des Prez and the Flemish Coclico. It is interesting to note that the pedagogical term 'coloratura' resulted from the vernacular usage of the words 'blackening' and 'whitening' in relation to the shortening and lengthening of note-values. The term 'coloratura' means vocal runs, passages of agility and ornamentation.⁶ Finck states bluntly that

no song is embellished by roaring and screaming... the higher a voice rises the quieter and lovelier should the note be sung; the more it descends, the richer the sound (cited, MacClintock 1979, 62).

b.

Notable among them in the eighteenth century: Farinelli, Caffarelli, Carestini, and Senesino in the 1720's and 1730's and Rubinella, Pacchierotti and Luigi Marchesi in the 1780's. It has been suggested that at this period seventy per cent of all opera singers were castrati. They sang both female and male roles. In other roles, the emphasis was upon the low unchanged male voice rather than the tenor voice, which, however, regained importance by the end of the eighteenth century. In the eighteenth century female singers were becoming more common in secular contexts. They were taught by castrati and sang the same roles. It was accepted that men sang women's roles and vice versa. This could cause much confusion for the audience.

⁶ See further, Celletti, 1991.

In the eighteenth century we find a predominance of treatises which deal mainly with the altered voice of the castrati and the female soprano voice, and fewer concerned with the normal male voice. However, much of vocal pedagogy, for example, breath management and articulation applied to all types and genders of voices. Male and female larynges are affected differently by puberty. The castrati's larynx was altered by removal of part or the whole of the genitals between the ages of seven and twelve, and hence the effects of puberty were largely avoided. The castrato became a full-grown male, often above average in height, and sometimes having ungainly movement. He retained the range and quality of a boy's voice (the larynx remained in a higher position and the vocal tract would probably have different proportions in relation to the vocal folds than that of the normal male or female). His voice was enhanced by maturity, having the power of large lungs that could sustain extraordinarily long phrases, and the resonating capabilities of an adult, features that manifested themselves as a 'beautiful' big sound. It has been estimated that out of four thousand boys per year castrated in Italy very few became famous. The first castrati to arrive in Italy were from Spain and one of the last in the line was Alessandro Moreschi (1858-1922) who can be heard on recordings.⁷ He was not numbered among the great, but the recording does give a very rough idea of what they sounded like. The female soprano's popularity often rivalled that of the castrati, and during the eighteenth century the low female voice gradually became accepted.

⁷ *The Record of Singing*, EMI, Vol. 1 (RLS 724), 1977. It is accompanied by an illustrated book of the same name by Scott, Michael, London: Duckworth, 1977.

APPENDIX 2 : FIRST IMPRESSIONS IN THE VOICE STUDIO

Psychological considerations apply at many points in vocal pedagogy. In order to show this we shall envisage a voice studio.¹

From the moment that the student/parent lifts the phone to make enquiries about lessons, voice teachers are selling themselves and their skills, and a social psychological 'atmosphere' with the building of relationships is being created. We find teachers dealing with their own self-concept, self-image, self-esteem, self-perception and self-efficacy and that of others in the contact with students, parents and other professionals.

The response to the phone call should be warm, welcoming, friendly and enthusiastic, but not overbearingly so. Similarly when the student/parent comes to the studio the response should be the same. Dressing in a professional manner, increases the chances of getting the respect deserved.

What is the impact on the student of the studio itself? It should be tidy, well organized and bright, with a piano that has been tuned regularly. If finances permit, good quality audio recording equipment is extremely useful for instantaneous playback of singing, so too is a video recorder with immediate visual and audio playback for the same purpose. If video recording is not available, then the humble mirror is essential, together with a small hand-mirror for close-ups of, for example, tongue, lip and mouth positions.¹ There should be an adjustable music stand, appropriate pictures, flowers, and a waiting area nearby, with easy access to a toilet.

The teacher should give the impression of an efficient, helpful and knowledgeable professional. However, the prospective student should not be made to feel intimidated; humility on the part of the teacher never comes amiss.

Singing teachers need business skills and sales skills. There are three parts to a sale: the approach, presentation and close. During the approach the student becomes interested in buying through referral, advertising or public relations. It is therefore, important for teachers to publicize their wares in the community, for example by inviting people to recitals, (both the teacher's and the pupil's), special seminars and open houses. For the presentation, it is vital to make sure the student/parent is listening and maintain full control of the interview all the time. It is useful to have a logical sequence in mind or written down, and to be prepared for resistance. The teacher should try to recognize the enquirers' dominant needs and respond to them, for example, if they mention 'quality' more than once, then the teacher can use the same word. There is much to be said for the teacher being alert to body language.¹ Honesty and enthusiasm are significant. Closing means that the sale is being confirmed.

¹ See further, Mackworth-Young, Lucinda, *Tuning In: Practical Psychology for Musicians who are Teaching, Learning and Performing*, Swaffam: MMM Publications, 2000.

Attention to seemingly small administrative points will engender confidence in the teacher's competence. For example, the teacher should keep records of students' addresses and telephone numbers both on cards, computer, notebooks or ring binder, have a copy of the timetable by the piano, and keep the waiting list up to date. It should go without saying that thank-you letters for gifts received from students should always be written.

Teachers should reassure parents/students that music other than that specified in the examination syllabus will feature in the repertoire to be mastered. They should be familiar with the different offerings of the examination boards and explain that the board will be matched to the student's needs, similarly the number of grades taken. It is not necessarily wise to plough through each successive grade. Teachers should be so well prepared that they never get the syllabus wrong or fail to cover required items.

The preliminary interview with a prospective student is of great importance from the psychological point of view not least because the assessment of teacher and prospective student is mutual. On both sides first impressions are significant, and *both* parties will not only be seeking information, but will, consciously or otherwise, be concerned to discover whether or not there is a basis for constructive inter-personal relations which will assist the learning process. Hence the importance of mutual questioning of which the following, drawn from my experience, are examples:

1. Questions a singing teacher might ask the prospective student or parent may include: 'Why do you or does your child wish to learn?' (an adult student should be asked, 'What is your goal?' Goals work best when both teacher and student agree upon them, and they should be realistic and attainable). 'Have you always sung since you were tiny? Are you giving it a go for your mum's sake or because your best friend has singing lessons? What do you want to sing - Classics, Musical Theatre, Pop? What music do you like? What do you listen to at home? Does your child want lessons or is it *your* wish? Are you willing to buy a music stand, mirrors? Are you prepared to tolerate daily practice (shift-workers may find the practising of singing unbearable as they try to sleep)? Will you keep an eye on progress by asking your child to sing for you? What other activities has the child, and is there sufficient time for regular practice? Will you ensure constant and punctual attendance? Will you agree to periodic graded exams?'

The questions above can mostly be adapted, according to the age of the student. It is sometimes a good idea, to have a moment alone with an accompanied child, particularly if the parent takes a dominant role in the interview.

2. The following questions are designed to elicit information from the teacher, in order to assist prospective students, *whether they are beginners or opera stars seeking an occasional vocal 'check-up'* (or even complete re-training following the onset of vocal problems), in selecting a teacher. The same information may be sought of teachers in conservatories.

- (a) *How do you describe your approach to the teaching of singing?*

The answer will reveal whether the teacher favours the tonal quality produced by one of the main singing techniques, and, if so on what physiological, acoustical and aesthetic grounds? ¹ What methods do you advocate or use, for example,

Alexander Technique, Jacques Dalcroze, Kodály, Orff, Comprehensive Musicianship (an American technique and philosophy for teaching music)?¹

(b) *What formal qualifications do you have?*

The answer will enable the prospective student to judge whether the teacher is able to provide a rounded musical education.

(c) *Do you teach to diploma level and beyond?*

This question is related to the last, but here the point is to beware of such a reply as, 'Well I have only Grade V myself, so I specialize in beginners'. But beginners need the most expert care and attention, and if a teacher has not mastered the relevant disciplines, then we may question whether there is a sufficient basis in anatomy and physiology, for example, to permit the safe and responsible training of another person's voice. Let us bear in mind the ancient medical dictum '*Primum non nocere*' (the first thing is not to do harm). One may also wish to probe a private teacher who says, 'I take only advanced students', for such a person may have tumbled off the performing stage into the teacher's studio after many years of singing (or even having ruined a promising performing career by damaging the voice) with little or no pedagogical knowledge or skill. It is worth dwelling on this matter.

(d) [To singing teachers under the age of sixty] *Are you still performing professionally?*

The question assumes that those who teach singing will be able to perform too. The answer may indicate whether or not (sickness or accident apart) the teacher's own vocal technique has permitted performance over a number of years. If it has not, the question arises whether the teacher's vocal pedagogy is sound.

(e) *How do you respond to demands made upon your students to others in the profession?*

The point here is that members of choirs and choral societies can be at the mercy of directors who make unrealistic and/or premature demands upon the voices in their charge.

(f) *What are your fees?*

Are they fee per lesson; per term; group lesson fees; single or consultation fees? There should be a clear statement of payment policy *apropos* missed lessons, holidays and withdrawals.

Other questions to be anticipated may concern demonstrating, accompanying, practising. The teacher should be prepared for any type of question: Would the first five lessons be a trial period? What are your views on exams, which board and why? Is entering music festivals a positive action to take? Do you include aural and theory in the lesson? How far do you want parents to be involved? Can I come to the first lesson? Can you recommend any books to study? Do you issue periodical period reports? Do you allow pupils to take part in choirs, school musicals where you have no control? Are there opportunities for student's meeting together? Who is the best performer to listen to? If the answer is not on the tip of the tongue, then information should be easily accessible from such bodies as The Musicians Union; The Incorporated Society of Musicians; The Association of Teachers of Singing; The British Voice Association; and also from amateur operatic societies, local church organists and choirmasters and music periodicals.

Many different types of pupils with widely contrasting personalities will present themselves for an initial interview. There are the easily discouraged; the

worrier; the perfectionist; the procrastinator; the musically sensitive but technically limited; the technically facile, but musically uninvolved; the detail obsessed, with slow progress; the intuitive, but detail negligent and others too numerous to be listed here.

Many people appear confident when they are not, whereas others who may appear to be of a retiring disposition may in fact be determined to the point of obstinacy. The teacher's ability to 'read the signs' is here at a premium. In this connection observation body language in the light of well-researched studies of that phenomenon is extremely helpful. For example, prospective students with low self-esteem may present as having poor posture and stooping, retreating into themselves, unable to make eye contact, fidgeting, being tense or appearing lethargic. On the other hand students who stand well, have brisk, erect walk action, and who maintain eye contact suggest confidence.²

There are many factors which contribute to the students appeal to the teacher. These factors may include physical attractiveness, to which we tend to respond positively. Some teachers tend to favour those who are like themselves in attitude and thought, perhaps in order to avoid misunderstandings disagreements or direct confrontations. In contrast there are many people who are attracted to complete opposites of themselves.

It is hardly necessary to dwell upon the teacher who conducts interviews in hair-rollers; who keeps an ashtray overflowing with cigarette butts on the piano; who offers no written contract; who accommodates a cat on every chair - so one might go on. The psychological impression received is dire, as it is in the case of those who seem all at sea on theoretical matters.

² See further, Diagram Group, *Collins Gem Body Language*, London: Collins, 1999; Wainwright, Gordon, *Teach Yourself Body Language*, London, Hodder and Stoughton Educational, 1999; Blakemore, Colin and Sheila Jennett, eds. *The Oxford Companion to the Body*, London: Oxford University Press, 2001.

APPENDIX 3 : ADDITIONAL PERFORMANCE CONSIDERATIONS AND CONTEXTS

a.

To Brown's list of considerations we might add the sartorial. It is advisable that on the concert platform female singers wear simple clothing and jewellery in order to avoid audience distraction away from the music to the singer's attire. A check of the appearance from front and back, when walking and standing and the effect of raising the arms may be made by a colleague or friend. Old-fashioned, drab, bizarre outfits do not add to the presentation. It is well to record what clothing was worn at each venue. Various options to be avoided are: the avoidance of wearing bright orange gowns for Handel's *Messiah*; some colours are more suitable than others for the concert stage; the avoidance of prints, unless they are very subdued. Looking at the dress from afar as though visualising as the audience will see it and taking with care with skirt length (females) - the audience will be looking from about knee level - needs the help of the observant friend. For informal concerts it is suggested for the male performer that he wears solid colour suits, although, on some occasions a blazer may be acceptable. He will be well-advised to check that his trousers are long enough to hide his dark coloured socks and that the socks are long enough to hide leg skin when seated; to wear a conservative tie and have well polished shoes coordinated with the suit. The wearing of a white shirt is the most elegant, a pale blue shirt is better than white for television, cuffs might be one centimetre below sleeve. For formal occasions, of course, tails or tuxedo/dinner jacket may be worn.

b.

Auditioning

There is much to be said for learning to whom one's talent is to be sold; it may be to a panel of judges at a competition or festival, for an agent, for representatives of a music society or orchestra, or for an opera company. The act of auditioning is a positive one. The judges, agents, administrators, producers and conductors are bursting to find an exhilarating and exciting singer. There are many reasons, often unimaginable, behind adjudicators' decisions, positive or negative, and probably not what the singer may imagine.

Opera singers should know the entire role of the opera for which they are auditioning, and not to rely on just learning one aria from the work. A long aria is not a good choice; the panel is likely to be experienced and will be able to judge very quickly whether the singer is suitable or not. It may be suggested that the singer wear something flattering but not too flashy and noiseless, comfortable shoes. The panel will be able to visualize singers in costume if they wear something simple. Singers are usually watched, both before and after the audition

and need to be prepared for this. It is advisable to communicate emotion and thought with the voice and use low-key gestures. Knowing the market differences will aid the aim of the singer. If it is a basic competition the judges will be adjudicating what they hear at the present moment. For the 'big' prizes plus recital, the judges will also be looking for someone who will be able to sustain a programme of an hour to an hour and a half. Colleges will be looking for ability, above all potential; some even include a session with a teacher to see if the student is 'teachable'. An audition for a broadcast or recording may look for a voice that is distinctive without the physical presence of the singer. Opera companies look for adaptable competent musicians and increasingly consider visual as well as vocal suitability when casting.

A few brief suggestions as to the auditioning singer may be appropriate here:

1. Be on time.
2. Dress appropriately.
3. Have all materials prepared, (where necessary include up-to-date biographical notes for inclusion in a programme, a clearly presented CV, first-class photographs, previous testimonials).
4. Be courteous and accept instructions.
5. Be as natural as possible; anything else is dishonest.
6. Prepare songs/arias of contrasting styles and languages plus music for the part you are auditioning for, playing to your strengths¹

If the audition requires a tape, it is advisable to choose an appropriate acoustic, avoiding anywhere with background noise, for example, a television for the making of the recording. The tape must impress immediately, the piano and accompaniment must be decent and it is a wise move to be very critical, bearing in mind that those listening have nothing else to go on. It also pays to have the tape made done professionally, after getting several price quotations, and checking whether or not the company keeps the tape (some companies have been known to produce additional tapes later for commercial purposes) with appropriate fade up and fade down, previously having heard other recordings made by the company. A cheap price for making a recording generally means a cheap job. Some competition administrators decry editing, therefore, it is well to make several performances and choose the best. It is important to check the competition rules precisely to be certain of what is required and which formats are acceptable.

Radio and Television

Being on radio or television is a great opportunity to perform to a large number of people and can make a big difference to a performing career, given that the opportunity is used well. In television because it is such an expensive medium the most welcome singers are those who can get it right first time, hence no retakes. However, getting it right first time in a television studio is not as easy as it seems - there are many distractions, one being moving cameras. Another difficulty sometimes encountered is beginning on cue when recording. Unfortunately consumers demand the same quality in live performance as they do from edited recordings.²

¹ See further, Legge, Anthony, *The Art of Auditioning*, London: Rhinegold Publishing, 1998; Fisher, Jeremy and Gillyanne Kayes, *Successful Singing Auditions*, London: A&C Black, 2002.

² See further, Davis, Richard, *A Beginning Singer's Guide*, Lanham and Oxford: Scarecrow Press Inc., 1998.

Clothing for the small screen has to be thought out carefully, bearing in mind that it is generally said that television adds 3kg/10lbs to the average physique. Stripes and checks can be problematic for cameras. Studio lighting is very hot - this should be considered when choosing clothes; one does not want to appear to be sweating. Makeup must be discreet as the director may take a close-up and false eyelashes may then appear grotesque. Movement should be minimized: extraneous movement will appear exaggerated and distracting to the viewer. If being interviewed then the same thing will apply. Material should be well prepared in advance, time will be short and the message needs to come across crisply. Of course the editor will have the final say about content.

In a radio interview it is advisable keep to the point, and not speak over anyone else, eliminating 'umm-ing' and 'ah-ing'. One word answers should be avoided wherever possible. It is useful to be aware of the time allowed to your interview to aid with your preparation.

APPENDIX 4 : ILLUSTRATIONS

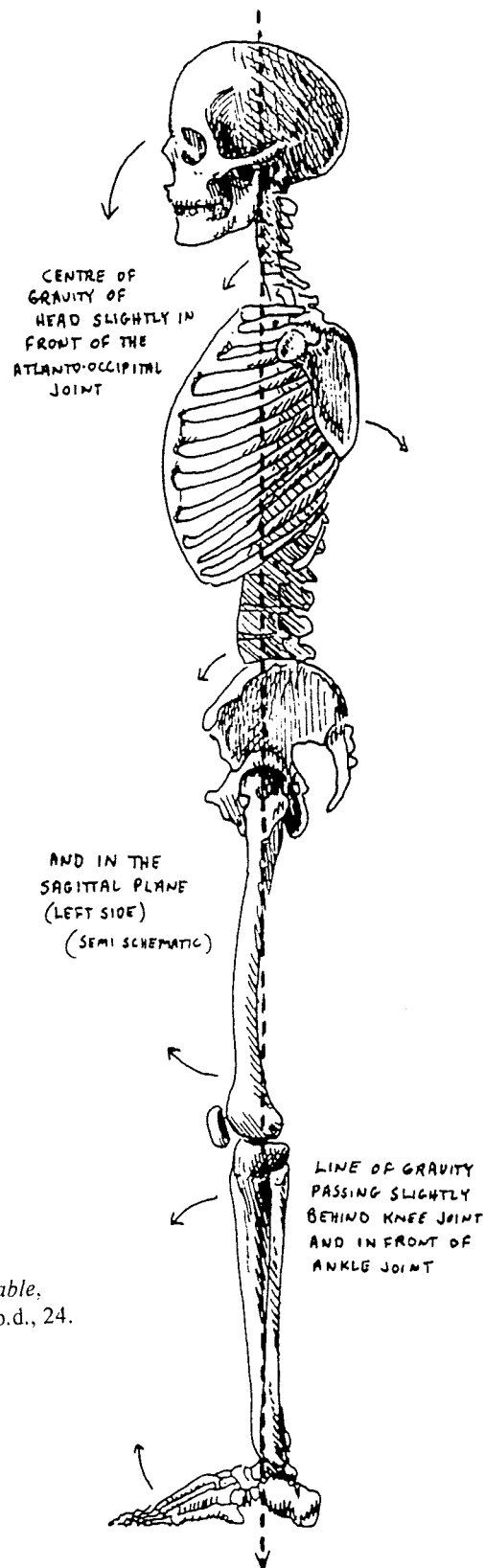
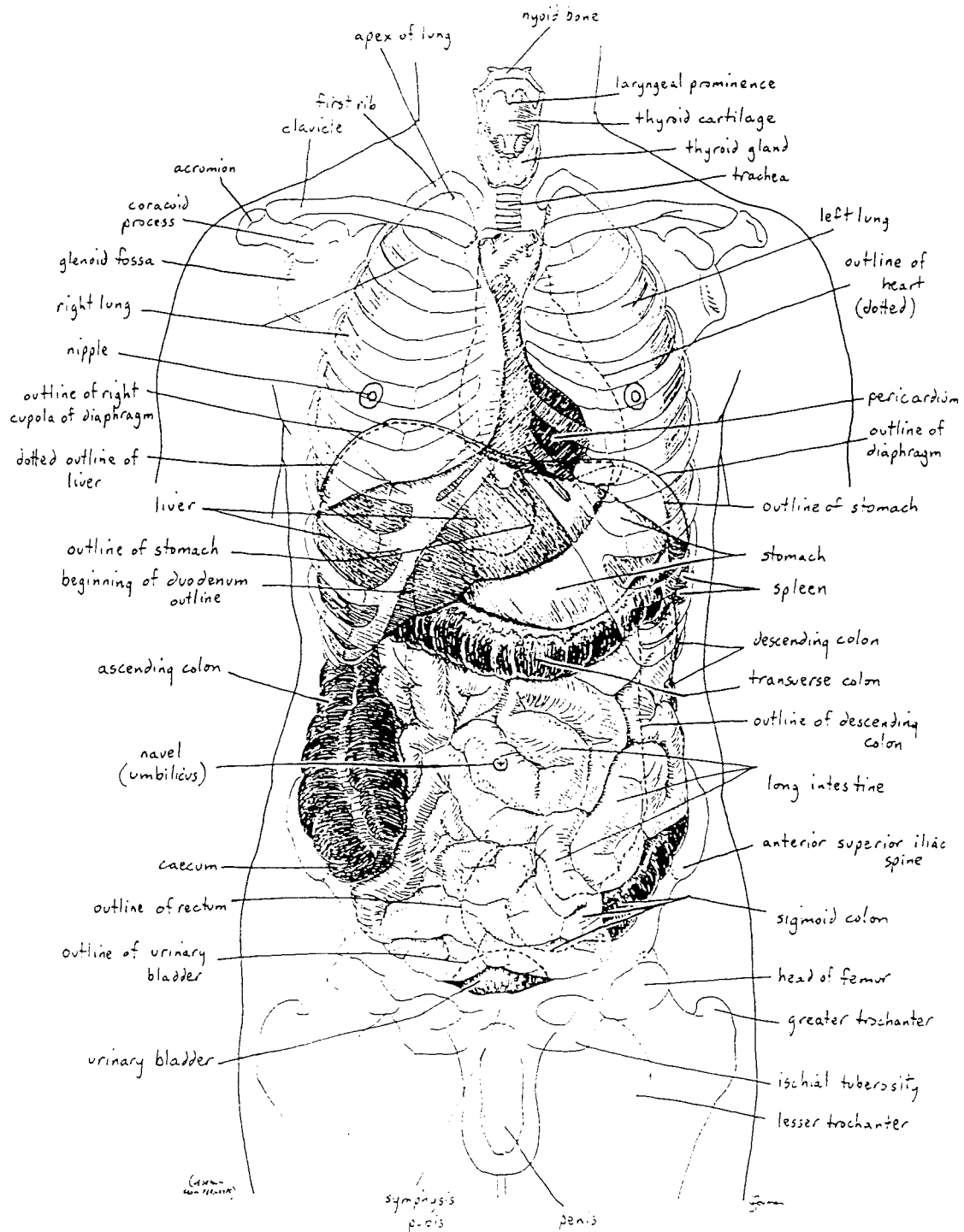


Illustration 1

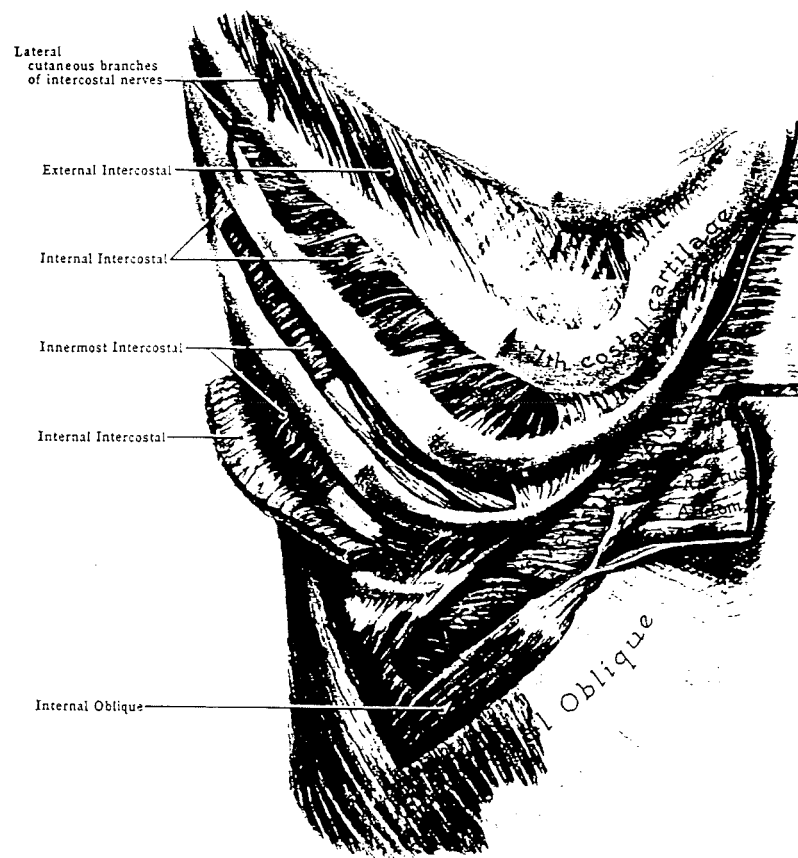
Gorman, David, *The Body Moveable*,
Guelph, Ontario: Ampersand, n.p.d., 24.



THORACIC AND ABDOMINAL VISCERA PROJECTED INSIDE THE SKELETON
FRONT VIEW

Illustration 2

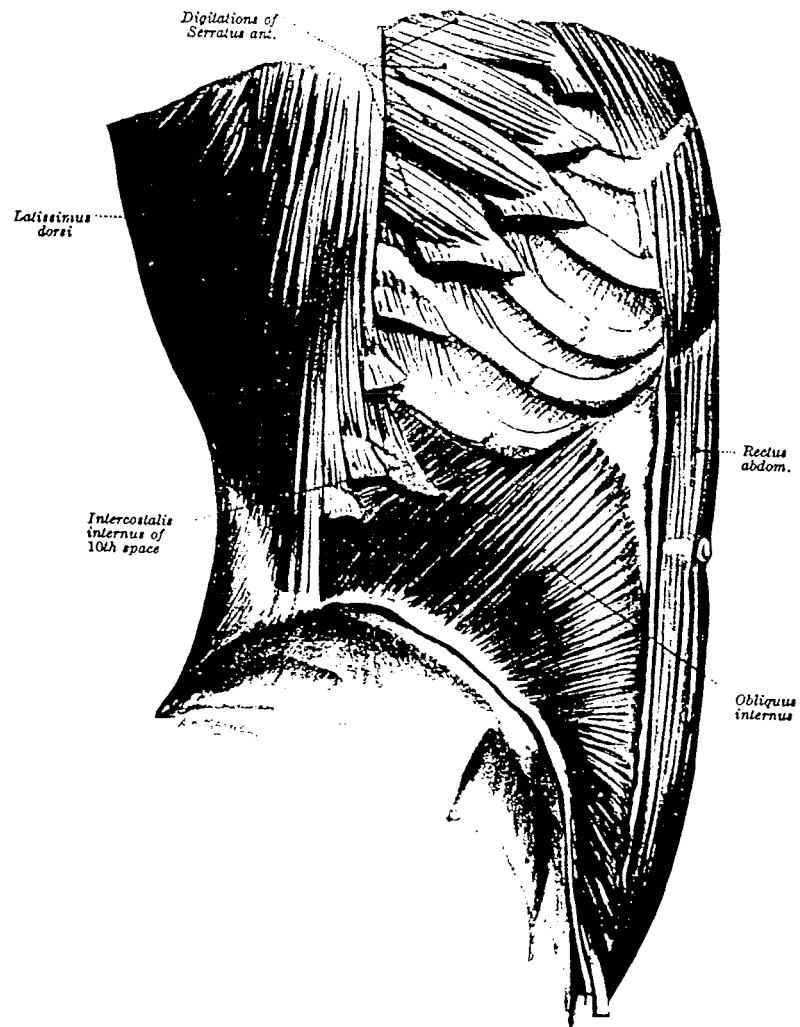
Gorman, David, *The Body Moveable*,
Guelph, Ontario: Ampersand, n.p.d., 146.



The intercostals, the lower ribs, and the muscles of the abdomen, showing the common direction of the fibers of the external intercostal and external oblique muscles, and the continuity of the internal intercostal with the internal oblique muscles at the anterior ends of the 9th, 10th, and 11th intercostal spaces. (From J. C. Boileau Grant, *An Atlas of Anatomy*, 5th ed., 1962. Baltimore: Williams & Wilkins Company. By permission.)

Illustration 3

Miller, Richard, *The Structure of Singing*.
New York: Schirmer, 1986. 26.



Dissection of the muscles of the right side of the trunk. The external oblique has been removed to show the internal oblique, but its digitations from the ribs have been preserved. The sheath of the rectus has been opened and its anterior wall removed. (From *Gray's Anatomy*, 36th ed., 1980, ed. by Peter L. Williams & Roger Warwick. Edinburgh: Churchill Livingstone. By permission.)

Illustration 4

Miller, Richard, *The Structure of Singing*.
New York: Schirmer. 1986. 27.

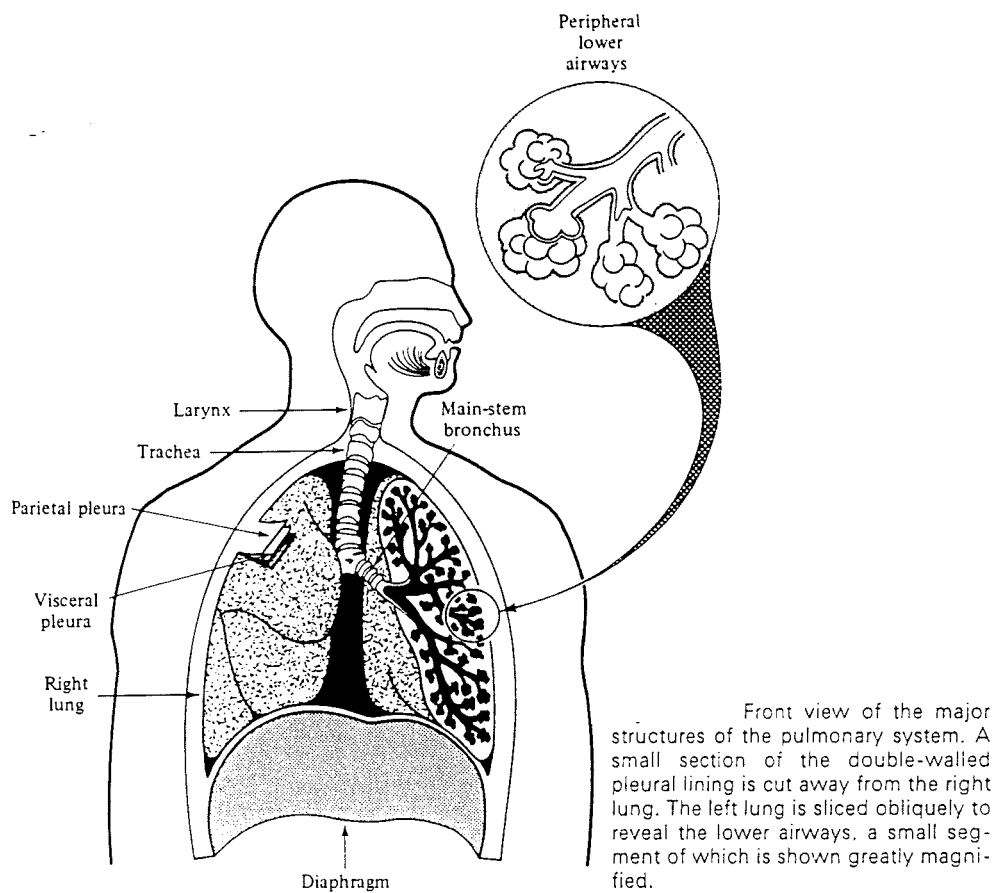
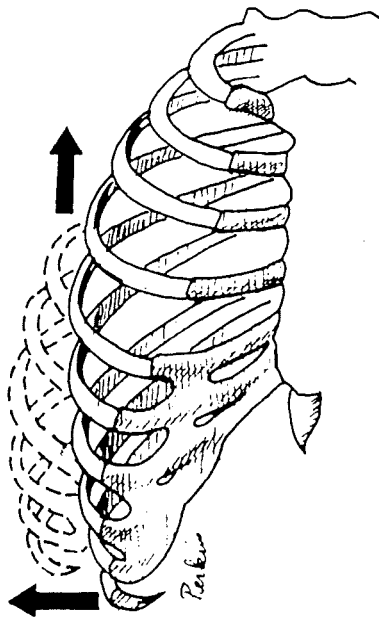
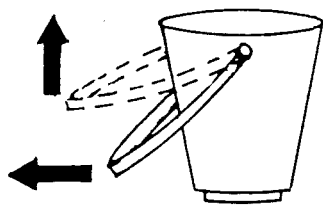


Illustration 5

Minifie, Fred D., Thomas J. Hixon and Frederick Williams,
Normal Aspects of Speech, Hearing, and Language, Englewood
 Cliffs, New Jersey: Prentice-Hall, 1973, 78.

LATERAL THORACIC EXPANSION



ANTEROPosterior THORACIC EXPANSION

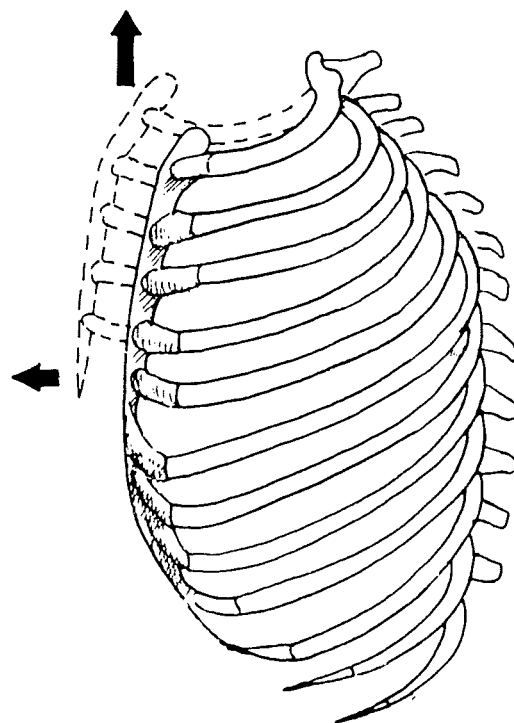
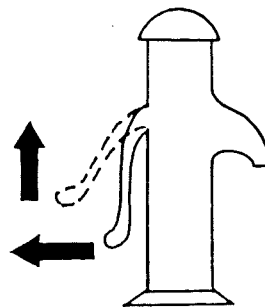
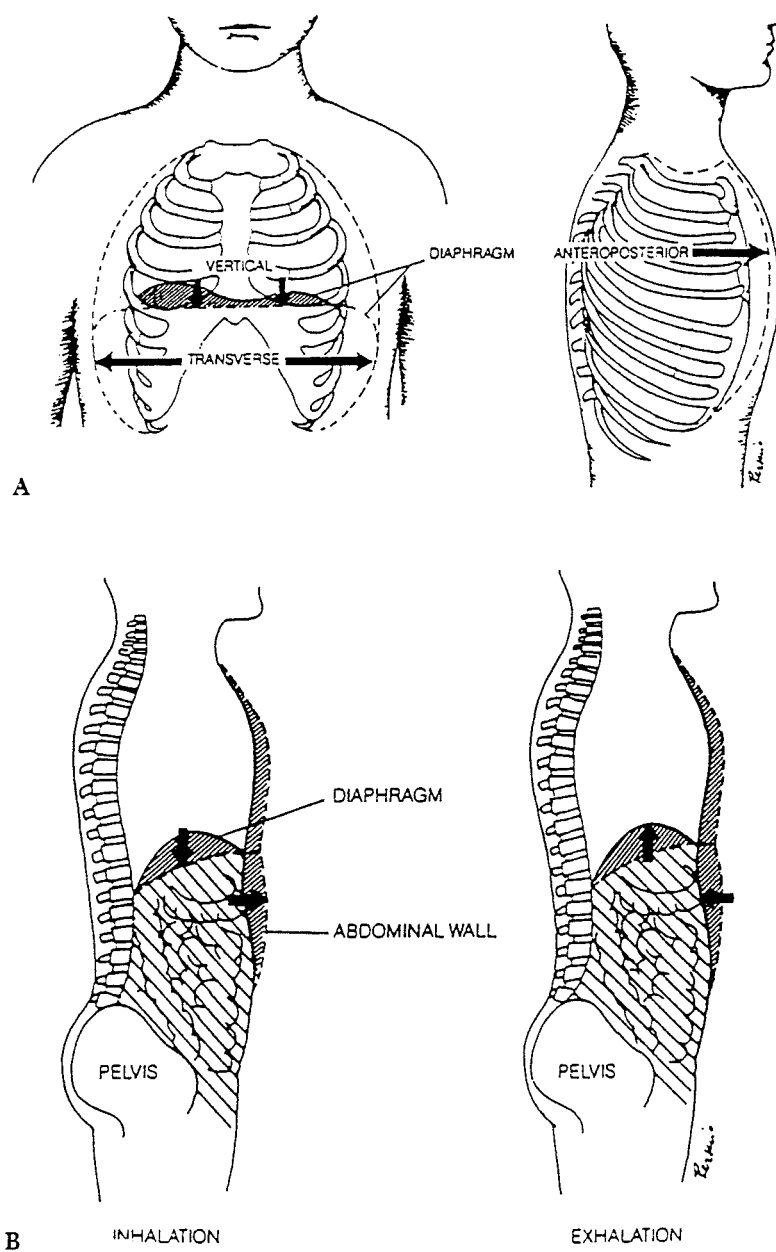


Illustration 6

Perkins, William H., and Raymond D. Kent, *Functional Anatomy of Speech, Language, and Hearing*, Austin, Texas: Pro-ed, 1986, 23.



The mechanics of breathing. (A) Chest movement. (B) Diaphragm and abdominal movement. (Adapted from Perkins, W. H.,

Illustration 7

Perkins, William H., and Raymond D. Kent, *Functional Anatomy of Speech, Language, and Hearing*, Austin, Texas: Pro-ed, 1986, 19.

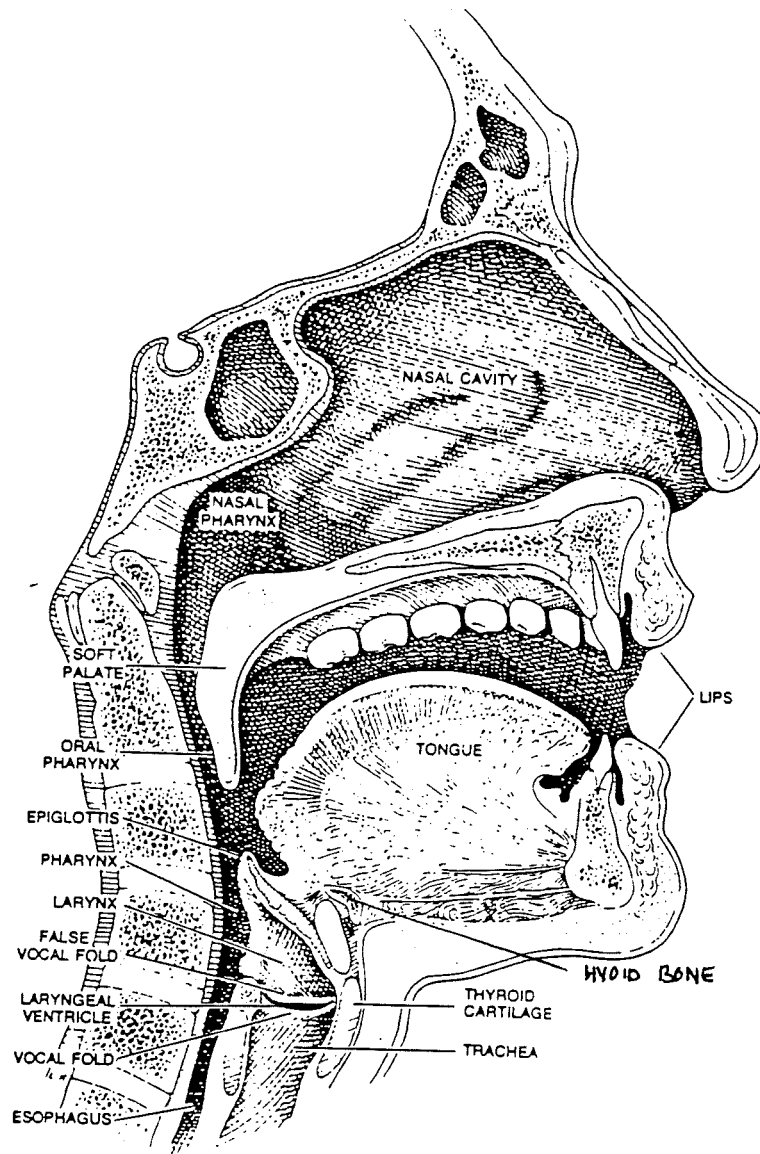


Illustration 8

Sundberg, Johann. 'The Acoustics of the Singing Voice'.
Scientific American, March, 1977, vol 236, no.3.

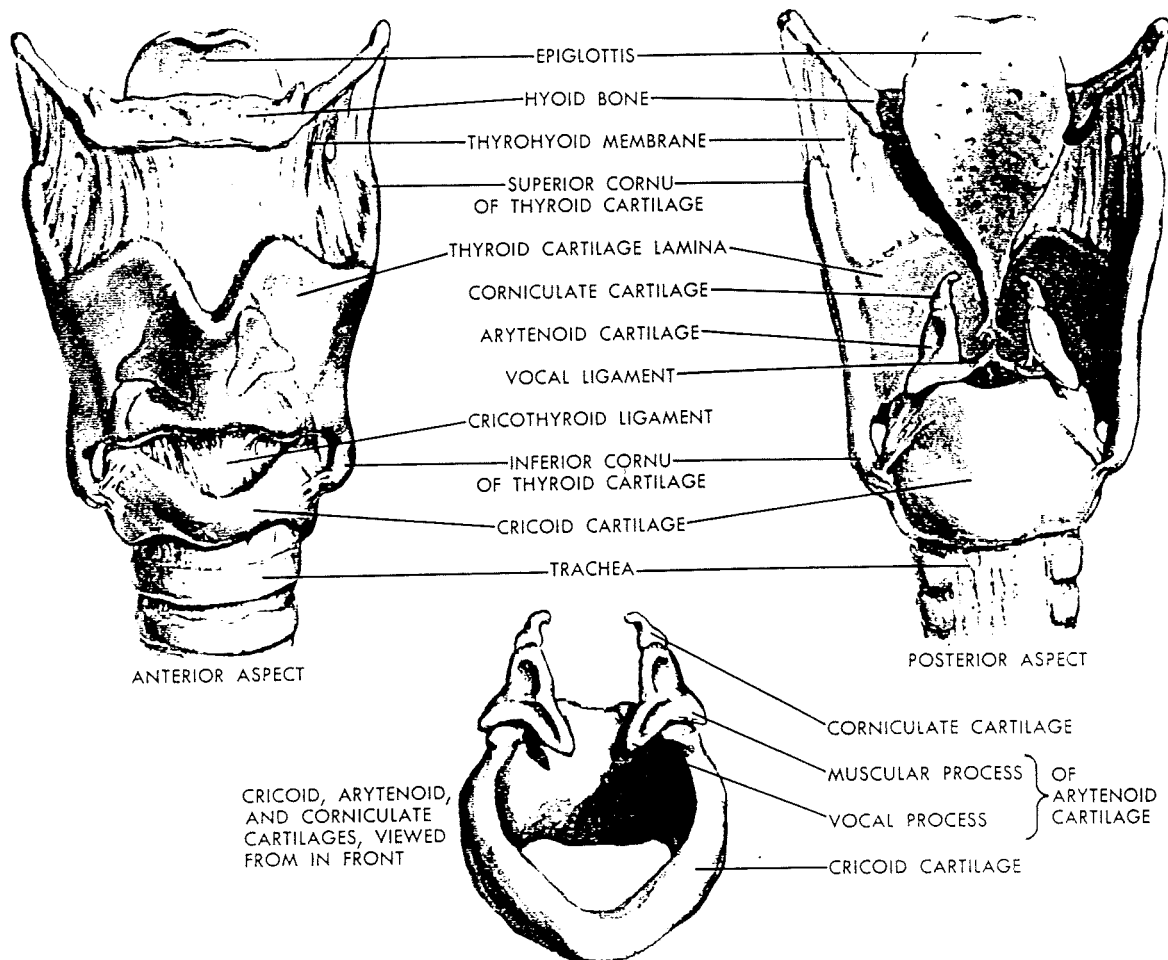


Illustration 9

Netter, F., *Clinical Symposia*, 1964, vol 16, no.3, plate I.

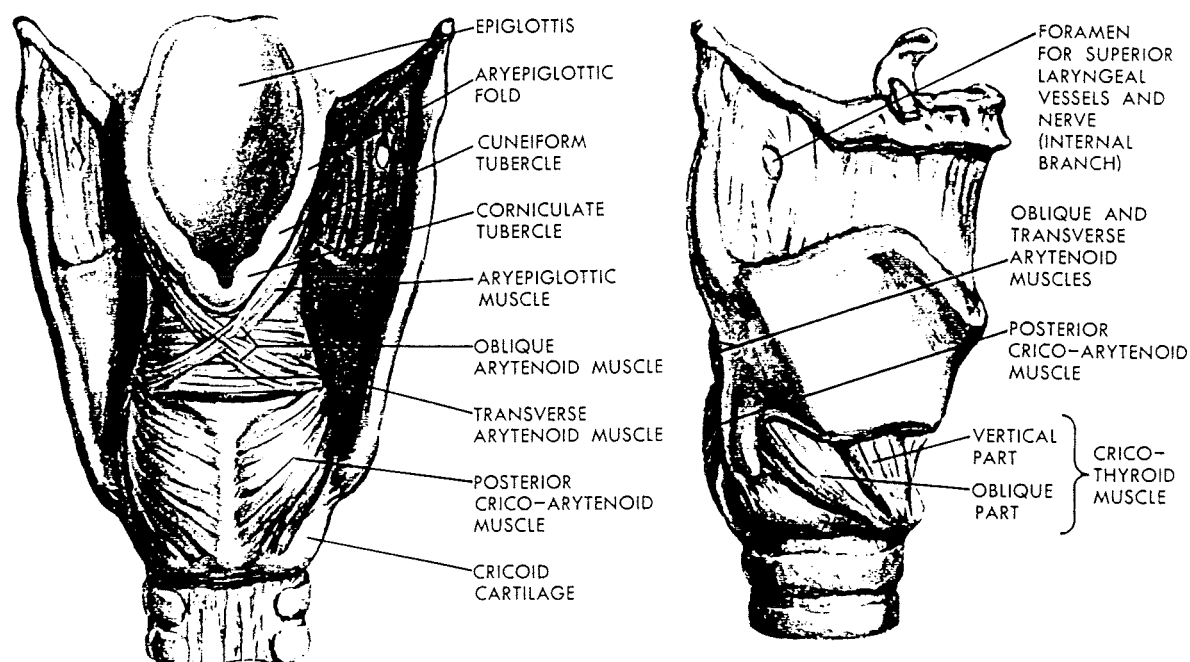


Illustration 10

Netter, F., *Clinical Symposia*, 1964, vol 16, no.3, plate II.

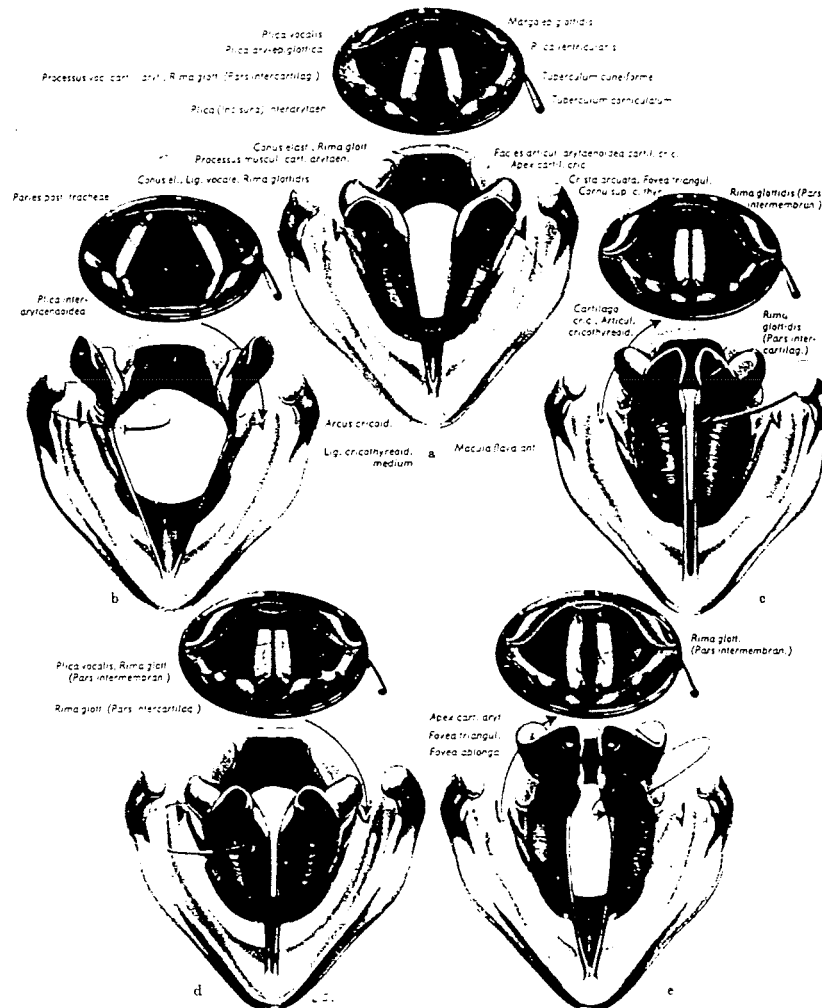
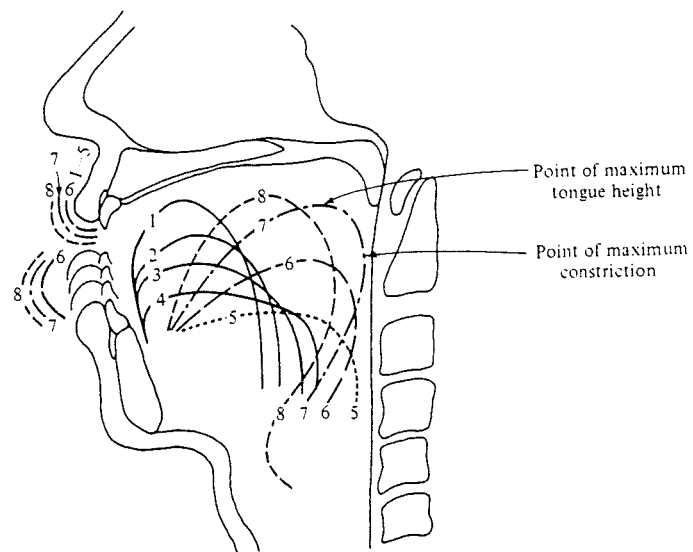


Figure 1.1. The vocal folds viewed by the laryngeal mirror, with a schematic design beneath, in (a) quiet breathing, (b) deep inhalation, (c) normal phonation, (d) one form of whispering, and (e) falsetto. (From Eduard Pernkopf, *Atlas der topographischen und angewandten Anatomie des Menschen*, ed. by Helmut Ferner, Vol. 1, 1963. Munich: Urban & Schwarzenberg. By permission.)

Illustration 11

Pernkopf, E., *Atlas of Topographical and Applied Human Anatomy*, Munich: Urban and Schwarzenberg, 1963. Cited. Miller, Richard, *The Structure of Singing*, New York: Schirmer, 1986. 6.

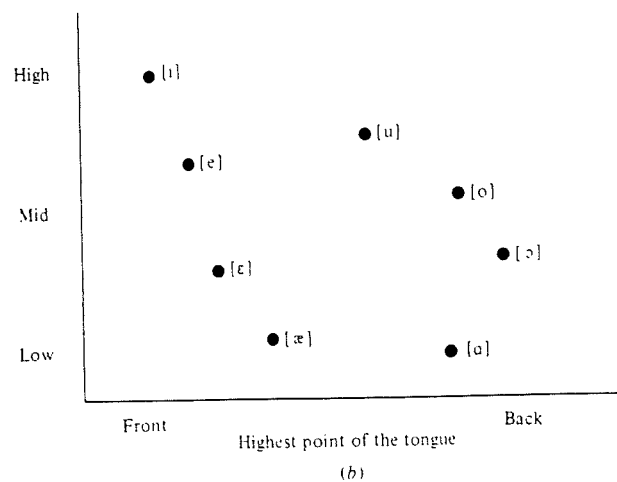


Tongue and lip positions for the vowels

(1) [i]	(5) [a]
(2) [e]	(6) [ɔ]
(3) [ɛ]	(7) [o]
(4) [æ]	(8) [u]

(a)

(a) A schematic drawing of tongue and lip positions for certain vowels. (b) Location of the high point of the tongue for various vowels.



(b)

Illustration 12

Minifie, Fred D., Thomas J. Hixon and Frederick Williams,
Normal Aspects of Speech, Hearing, and Language, Englewood
 Cliffs, New Jersey: Prentice-Hall, 1973, 173.

A schematic view of the articulators, vocal tract cavities, and places of articulation.

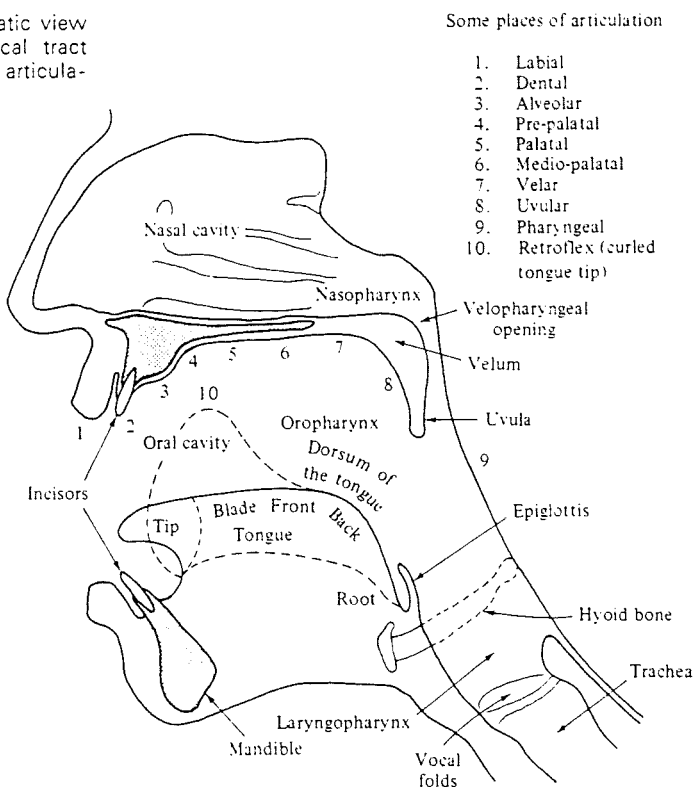


Illustration 13

Minifie, Fred D., Thomas J. Hixon and Frederick William
Normal Aspects of Speech, Hearing, and Language, Engle
 Cliffs, New Jersey: Prentice-Hall, 1973, 187.

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